

EXHIBIT Q

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

SIDNEY GORDON and JEFFREY TAUBER,

Plaintiffs,

v.

SONAR CAPITAL MANAGEMENT LLC; NEIL DRUKER; PRIMARY GLOBAL RESEARCH, LLC; SONAR PARTNERS, LP; SONAR INSTITUTIONAL FUND, LP; SONAR OVERSEAS FUND, LTD.; AURORA HEDGED EQUITY LP; AURORA HEDGED EQUITY OFFSHORE FUND, LTD.; AURORA LIMITED PARTNERSHIP; AURORA OFFSHORE FUND LTD. II; AZIMUTH DIVERSIFIED FUND, LLC; AZIMUTH SELECT FUND, LLC; BARFIELD NOMINEES LIMITED A/C 18818; CHICAGO PATRIOT, LLC; CONTINENTAL CASUALTY COMPANY; DAVID E. SEMMEL; DELOS FUND, LTD.; DELOS FUND II, LTD.; DOREL, LLC; FQR ALTERNATIVES II, LP; JOANNE MACKINNON; JOCELYN BOWIE; IFC (A) TRUST; IFC (E) TRUST; LESLIE SEMMEL; LOEWS CORPORATION; MWV EMPLOYEE RETIREMENT PLAN GROUP TRUST; THE ORRINGTON FUND, LTD.; THE ORRINGTON FUND, LP; THE ORRINGTON PLUS MASTER FUND, LTD.; PANGAEA PARTNERS, LP; PAROS FUND TRUST; Q-BLK ALPHA ENGINE, LTD.; QBLK EQUITY EDGE PORTFOLIO, LP; Q-BLK EQUITY EDGE PORTFOLIO, LTD.; QIP LTD.; QPA LTD.; ROBECO-SAGE CAPITAL INTERNATIONAL II, LTD.; ROBECO-SAGE CAPITAL, LP; ARDEN SAGE MULTI-STRATEGY FUND, LLC; ARDEN SAGE TRITON FUND, LLC; ROBECO-SAGE UNIT TRUST; SEMMEL FAMILY TRUST; STEINBERG FAMILY INVESTMENTS, LTD.; THE WEATHERLOW FUND, LP

Defendants.

Case No. 11-CV-9665 (JSR)

REPORT ON MARKET EFFICIENCY AND DAMAGES

PROFESSOR STEVEN P. FEINSTEIN, PH.D., CFA

February 6, 2015

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SCOPE OF PROJECT AND REPORT

1. I was asked by Shapiro Haber and Urmy LLP and Brower Piven, A Professional Corporation, Lead Counsel for Lead Plaintiffs, to: a) determine whether the common stock of Sigma Designs, Inc. (“Sigma” or the “Company”) traded in an efficient market during the period from 13 July 2007 through 12 March 2008 (the “Combined Class Period”)¹; b) compute profits reaped by Defendants on account of the trading on inside information alleged by Plaintiffs, and c) compute damages sustained by market participants in the aggregate on account of the alleged illegal use of inside information by the Defendants.
2. To assess market efficiency, I analyzed the market for Sigma common stock, the price behavior of the stock, and the factors that are generally accepted to be indicative of market efficiency. I examined Company press releases, conference call transcripts, equity analyst reports, news articles, U.S. Securities and Exchange Commission (“SEC”) filings, security prices, trading volume, the performance of the overall stock market, and the performance of Sigma’s peer group, as well as other pertinent data and documents.
3. To calculate Defendants’ profits and avoided losses, I analyzed trading records, the prices of Sigma stock, and conducted an event study to determine the value of the alleged inside information at issue. To compute aggregate market damages, I analyzed market trading volume in conjunction with the results of the event study.
4. I read Lead Plaintiffs’ Third Amended Class Action Complaint (“Complaint”) dated 30 December 2014, and considered the allegations therein. Exhibit-1 lists the documents I reviewed and relied upon in the course of this engagement.
5. This report presents my methodology, findings, and conclusions.
6. I reserve the right to amend, refine, or modify my opinion and report, including in the event any new or additional information or analysis becomes available.

¹ Based upon the beginning and end dates of the Class Periods described in the Complaint, ¶¶146-147.

CREDENTIALS

7. I am an Associate Professor of Finance at Babson College, and the founder and president of Crowninshield Financial Research, Inc., a financial economics consulting firm.
8. I hold a Ph.D. in Economics from Yale University, a Master of Philosophy degree in Economics from Yale University, a Master of Arts in Economics from Yale University, and a Bachelor of Arts degree in Economics from Pomona College. I also hold the Chartered Financial Analyst (“CFA”) designation, granted by the CFA Institute.
9. At Babson College I have taught undergraduate and MBA level courses in Valuation, Capital Markets, Investments, Equity Analysis, Fixed Income Analysis, Financial Management, Risk Management, Quantitative Methods, and Security Valuation. I have also taught executive courses on investments and corporate financial management for numerous corporations. Other courses I have taught are listed in my curriculum vitae, which is attached as Exhibit-2.
10. At Babson College, I have held the Chair in Applied Investments and served as the Director of the Stephen D. Cutler Investment Management Center, a research and education center dedicated to the study and teaching of investments and capital markets.
11. Prior to my joining the faculty at Babson College, I taught finance at Boston University. Previously, I was an Economist at the Federal Reserve Bank of Atlanta where my primary responsibilities were to monitor financial markets, analyze proposed regulation, and advise the Bank President in preparation for his participation in meetings of the Federal Open Market Committee – the government body responsible for monetary policy in the United States.
12. I have published extensively in the field of finance. My finance articles have appeared in the *Atlanta Federal Reserve Bank Economic Review*, *Derivatives Quarterly*, *Derivatives Weekly*, *The Engineering Economist*, *The Journal of Risk*, *The American Bankruptcy Institute Journal*, *The Journal of Financial Planning*, *The Journal of Forensic Economics*, *Managerial Finance*, *Risk Management*, and *Primus*. I am the author of *Finance and Accounting for Project Management*, published by the American Management Association. I wrote two chapters in the book *The Portable MBA in Finance and Accounting* – one on corporate financial planning and the other on risk management. I have presented research at the annual conventions of the American Finance Association, the Academy of Financial

Services, the Multinational Finance Society, the Financial Management Association, the Taxpayers Against Fraud Education Fund Conference, and the International Conference on Applied Business Research. Co-authored papers of mine have been presented at the Eastern Finance Association meetings and the Midwestern Finance Association meetings. A list of all the publications I authored in the previous ten years can be found in my curriculum vitae, which is attached as Exhibit-2.

13. I have been selected to review papers for numerous finance journals and conferences, and I have reviewed finance textbook manuscripts for Prentice-Hall, Elsevier, Blackwell, and Southwestern Publishing. I have been quoted on matters relating to finance and investments in *The Wall Street Journal*, *The Washington Post*, *The New York Times*, *The Financial Times*, *The Boston Globe*, and *Bloomberg News*, and my research relating to financial analysis and valuation has been discussed in *The Wall Street Journal*, *Bond Buyer*, and *Grant's Municipal Bond Observer*.
14. I am a member of the American Finance Association, the Financial Management Association, the North American Case Research Association, the National Association of Forensic Economics, the CFA Institute, and the Boston Security Analysts Society, where I have served as a member of the education committee and ethics subcommittee. I served on the Fixed Income Specialization Examination Committee of the CFA Institute.
15. The CFA designation is the premier credential for financial analysts worldwide. In order to receive this credential, applicants must pass a series of three exams covering such topics as economics, equity analysis, financial valuation, business analysis, quantitative methods, investment analysis, portfolio management, risk management, financial accounting, and ethical and professional standards. For over ten years I taught in the Boston University CFA Review Program and the Boston Security Analysts Society CFA Review Program – two of the leading review programs that prepared candidates for the CFA exams. In both of these programs I taught candidates at the most advanced level.
16. In addition to my teaching, research, CFA, and academic community responsibilities, I practice extensively as a financial consultant. Past and present clients include the United States Securities and Exchange Commission, the Internal Revenue Service, the Attorney General of the State of Illinois, and the National Association of Securities Dealers. As a financial consultant, I have conducted analyses and presented opinions related to markets,

valuation, and damages in over 50 cases. Exhibit-3 lists my prior testimony appearances over the past four years.

17. I am the president and founder of the consulting firm Crowninshield Financial Research, which receives compensation for the work performed by me and the analysts who assist me on this case. My firm is being compensated at a rate of \$750 per hour for my work, and my compensation is neither contingent on my findings nor on the outcome of this matter.

CONCLUSIONS

18. Sigma common stock traded in an efficient market over the course of the Combined Class Period. Sigma common stock satisfied the *Cammer* and *Krogman* factors, which, consistent with financial economic principles and empirical research, indicate market efficiency.
19. Sigma common stock exhibited statistically significant price reactions in response to all three earnings announcements that occurred during the Combined Class Period. Additional tests examining the earnings announcements collectively further confirmed that the Sigma stock price consistently responded to new information. This empirical analysis demonstrates that there was a cause and effect relationship between the release of new information and movements in the Sigma common stock price, which not only indicates market efficiency, but demonstrates the essence of market efficiency.
20. Based on the foregoing, I conclude Sigma common stock traded in an efficient market over the course of the Combined Class Period. The efficiency of the market for Sigma common stock, and the results of the event study conducted on earnings announcement dates, establish that the subject matter of the alleged inside information was important, valuation-relevant information.
21. Market participants who purchased stock when Defendants allegedly were selling on inside information, overpaid relative to what they would have paid had the inside information been disclosed. Market participants who sold stock when Defendants allegedly were buying on inside information, were underpaid relative to what they would have received had the inside information been disclosed. Aggregate damages were computed by multiplying the number of shares market participants bought by the amount they overpaid

per share, plus the number of shares market participants sold by the amount they were underpaid per share.

22. Market participants who traded contemporaneously with Defendants were damaged in connection with Defendants' alleged insider trading. The total amount of damages ranges from \$1.41 billion to \$2.97 billion, depending on the definition of the contemporaneous period relative to Defendants' trades.
23. Profits earned and losses avoided by the Defendants from allegedly trading on the inside information amount to \$43.9 million when trades are matched according to the Last In First Out ("LIFO") algorithm, and amount to \$49.8 million when the First In First Out ("FIFO") matching algorithm is used.

FACTUAL BACKGROUND

About the Company

24. Sigma is a provider of integrated "system-on-chip" microchip products that are used to deliver multimedia entertainment.² The Company provides manufacturers with semiconductor chips and digital media processing software used for operating consumer electronics such as DVD players, IPTV set-top boxes, portable media devices, and HDTV.³
25. For the fiscal year ended 2 February 2008, the Company reported net revenue and net income of \$221 million and \$70.21 million respectively.⁴ Sigma's system-on-chip products accounted for 98% of the Company's 2008 FY net revenue.⁵ A small portion of revenue was generated from other products and services, including engineering support services for both hardware and software.⁶

² Sigma Designs, Inc., Form 10-K for the Fiscal Year Ended 2 February 2008, filed 2 April 2008, p. 5.

³ *Id.*, p. 6.

⁴ *Id.*, p. 30.

⁵ *Id.*, p. 31.

⁶ *Id.*

26. Sigma's average market capitalization of \$1.25 billion during the Combined Class Period ranked the Company in the 3rd decile by size among companies whose stock is traded on U.S. stock exchanges⁷ – meaning that Sigma was larger than at least 70% of all other publicly-traded companies in the United States.
27. Throughout the Combined Class Period, Sigma common stock was listed and traded on the NASDAQ Stock Exchange ("NASDAQ") under the symbol SIGM.

EFFICIENT MARKET DEFINED

28. The definition of market efficiency set forth by Judge Alfred J. Lechner, Jr. in the 1989 *Cammer v. Bloom* decision is often cited as a legal authority on the meaning of market efficiency and is consistent with the definition generally accepted by the academic finance community:

“As relevant here, courts have permitted a rebuttable presumption of reliance in the case of securities traded in ‘efficient markets’ (*i.e.*, markets which are so active and followed that material information disclosed by a company is expected to be reflected in the stock price).”
Cammer v. Bloom Opinion, 711 F. Supp. 1264, 1273 (D.N.J. 1989).

29. Judge Lechner also cited the definitions offered by commentators Alan R. Bromberg and Lewis D. Lowenfels, and by finance professor Eugene Fama:

“An efficient market is one which rapidly reflects new information in price.”
Alan Bromberg & Lewis Lowenfels, *Securities Fraud and Commodities*, §8.6 (Aug. 1988; *see also Cammer*, 711 F. Supp. at 1276.

“A market in which prices always ‘fully reflect’ available information is called ‘efficient.’”
“Efficient Capital Markets: A Review of Theory and Empirical Work,” by Eugene Fama, *Journal of Finance*, 1970, cited in *Cammer*, 711 F. Supp. at 1280.

⁷ Using averaged month-end data from CRSP between 13 July 2007 and 12 March 2008, I grouped public companies into deciles, so that the 1st decile contains the largest 10% of all public companies listed on the NYSE, NYSE MKT (formerly American Stock Exchange), and NASDAQ, while the 10th decile contains the smallest 10%.

30. The Supreme Court in the *Basic v. Levinson* decision focused on the same important characteristic at the heart of these definitions of market efficiency:

“The fraud on the market theory is based on the hypothesis that, in an open and developed securities market, the price of a company’s stock is determined by the available material information regarding the company and its business”

Basic v. Levinson, 485 U.S. 224, 243, 108 S. Ct. 978, 988-89, 99 L. Ed. 2d 194 (1988); see also *Cammer*, 711 F. Supp. at 1276.

31. The recent *Amgen* decision defined market efficiency similarly.

“The fraud-on-the market premise is that the price of a security traded in an efficient market will reflect all publicly available information about a company”

Amgen Inc. v. Conn. Ret. Plans & Trust Funds, U.S., 133 S. Ct. 1184, 1190 (2013), 185 L. Ed. 2d 308 (2013).

32. In its recent *Halliburton II* decision the Supreme Court addressed the cause and effect relationship at the center of market efficiency thusly:

“Even the foremost critics of the efficient-capital markets hypothesis acknowledge that public information generally affects stock prices. . . . Debates about the precise *degree* to which stock prices accurately reflect public information are thus largely beside the point. ‘That the . . . price [of a stock] may be inaccurate does not detract from the fact that false statements affect it, and cause loss,’ which is ‘all that *Basic* requires.’”
Halliburton Co. v. Erica P. John Fund, Inc., 134 S. Ct. 2398, 2410, 189 L. Ed. 339 (2014) (emphasis in original).

33. An efficient market, as defined by *Cammer*, *Basic*, *Amgen*, Bromberg and Lowenfels, and Fama, is a market in which available information is rapidly incorporated into the prices of securities such that the trading price reflects all available information. Market efficiency is relevant to an inside information case as it addresses the question of whether the information at issue would likely have impacted the prices at which investors bought and sold, and which were relied upon. In an efficient market, the release of valuation-relevant information causes stock prices to rise and fall.

The Cammer Factors

34. The *Cammer* opinion lays out five factors that would suggest the market for a security is efficient. As described below, economic rationales support each factor as an indicator of market efficiency. The five factors are: 1) trading volume, 2) coverage by securities analysts, 3) number of market makers, 4) eligibility for S-3 registration, and 5) empirical evidence that the security price reacts to unexpected material information.
35. Empirical research has confirmed that volume, number of market makers, and analyst coverage are indicative of market efficiency:

“Consistent with the efficiency indicators used recently by the courts, the inefficient firms have lower mean trading volume, fewer market makers, lower analyst following, and lower institutional ownership (number and percentage) than efficient firms.”

“**The Fraud-on-the-Market Theory and the Indicators of Common Stock Efficiency**,” by Brad M. Barber, Paul A. Griffin, and Baruch Lev, *Journal of Corporation Law*, 1994, p. 302.

36. With respect to the empirical factor, Barber, *et al.* used empirical tests as the standard for market efficiency by which to judge the significance of the other variables. Consequently, they acknowledge the importance of the empirical factor.
37. Consistent with financial economic theory and empirical research, the language used by the *Cammer* Court describes the factors not as five *necessary* factors, but rather as indicative of the degree to which the security market is expected to be efficient:

“There are several different characteristics pertaining to the markets for individual stocks which are probative of the degree to which the purchase price of a stock should reflect material company disclosures.”
Cammer, 711 F. Supp. at 1283.

38. The *Cammer* opinion describes the nature of the five factors as follows:

“There are several types of facts which, if alleged, might give rise to an inference that Coated Sales traded in an efficient market. It is useful to set forth an explanation of how the existence of such facts would cause the understanding that disclosed company information (or misinformation) would be reflected in the company’s stock price, the underpinning of the fraud on the market theory. *Peil, supra*, 806 F.2d at 1160.”
Id. at 1285-86 (footnote omitted).

“First, plaintiffs could have alleged there existed an average weekly trading volume during the class period in excess of a certain number of shares.”

Id. at 1286.

“Second, it would be persuasive to allege a significant number of securities analysts followed and reported on a company’s stock during the class period.”

Id.

“Third, it could be alleged the stock had numerous market makers.”

Id.

“Fourth, as discussed it would be helpful to allege the Company was entitled to file an S-3 Registration in connection with public offerings...”

Id. at 1287.

“Finally, it would be helpful to a plaintiff seeking to allege an efficient market to allege empirical facts showing a cause and effect relationship between unexpected corporate events or financial releases and an immediate response in the stock price.”

Id.

“As previously noted, one of the most convincing ways to demonstrate efficiency would be to illustrate over time, a cause and effect relationship between company disclosures and resulting movements in stock price.”

Id. at 1291.

The Krogman Factors

39. In addition to the five *Cammer* factors that indicate market efficiency, the district court in *Krogman v. Sterritt*, 202 F.R.D. 467 (N.D.Tex. 2001), and the Fifth Circuit Court of Appeals in *Unger v. Amedisys*, 401 F.3d 316 (5th Cir. 2005), concluded that three additional factors were also indicative of market efficiency.
40. These additional factors, the *Krogman* factors, are: 1) the company’s market capitalization, 2) the stock’s float, and 3) the typical bid-ask spread.
41. Market capitalization is the total value of all outstanding shares. It equals the number of shares outstanding times the price per share. Reasonably, the larger the market capitalization, the more prominent and well known the company will be. Larger companies tend to attract more analyst and news media coverage, and gain the attention of greater

- numbers of investors, including very large institutional investors. All of these characteristics, which accompany a large market capitalization, promote market efficiency.
42. The stock's float is the number of shares outstanding less shares held by insiders and affiliated corporate entities. It is generally the number of shares available for trading by outside investors in the open market. Float is highly correlated with market capitalization, but it focuses on the shares available for trading rather than all outstanding shares. Stocks with large levels of float tend to trade more actively, attract more analyst and news media coverage, and garner the attention of greater numbers of investors, including large institutional investors. All of these characteristics, which accompany a high float level, promote market efficiency.
43. The bid-ask spread is the difference between the price at which market makers are offering to buy a security and the price at which they are offering the security for sale. If a security is actively traded and information about the security is readily available, the bid-ask spread will tend to be narrow. Moreover, a narrow bid-ask spread makes trading in the security less costly for investors, and thereby tends to attract greater interest, greater coverage, and greater volume, which in turn are factors that are generally considered to promote market efficiency.

EFFICIENCY OF THE MARKET FOR SIGMA COMMON STOCK

44. To assess whether the market for Sigma common stock was an efficient market, I analyzed the market for, and behavior of, Sigma common stock, focusing on the factors that are generally accepted to be indicative of market efficiency for a publicly traded security.

Trading Volume

45. Throughout the Combined Class Period, Sigma common stock traded regularly and actively. On average, 2.18 million shares changed hands daily.⁸ On one day, 29 November 2007, over 11 million shares traded. Sigma's common stock trading data is presented in Exhibit-4.

⁸ Data obtained from CRSP.

46. In addition to average daily trading volume, another volume metric to consider in determining market efficiency is the percentage of outstanding shares that turn over each week. During the Combined Class Period, the average weekly trading volume was 10.9 million shares, or 39.4% of shares outstanding.⁹ This level of trading activity is above levels accepted by courts as being indicative of market efficiency for common stocks.¹⁰ In the case of the common stock of Coated Sales, Inc., the *Cammer* Court cited the conclusion of Alan R. Bromberg and Lewis D. Lowenfels that “weekly trading of 2% or more of the outstanding shares would justify a strong presumption that the market for the security is an efficient one; 1% would justify a substantial presumption.”¹¹ Trading volume for Sigma common stock during the Combined Class Period was well above the threshold for a strong presumption of market efficiency.
47. Both in terms of average daily trading volume and also on the basis of the percentage of outstanding shares traded weekly, the market for Sigma common stock was active. Consistent with the *Cammer* opinion, economic theory, and empirical research, the active trading volume in common stock is strong evidence of the efficiency of the market for Sigma common stock over the course of the Combined Class Period.

Analyst Coverage and Other Avenues of Information Dissemination

Analyst Coverage

48. Securities analysts disseminate and interpret information about the companies they cover. They conduct research and provide valuation opinions, helping market participants acquire relevant information and understand the implications of that information for valuation and investment decisions. Consequently, securities analysts facilitate the flow of information and the digestion of information within the marketplace. These functions promote market efficiency.

⁹ Estimated by averaging the daily ratio of trading volume to number of shares outstanding and multiplying by 5 (the number of trading days in a typical week).

¹⁰ *Cammer*, 711 F. Supp. at 1286.

¹¹ *Id.*, at 1293.

49. Sigma was the subject of broad analyst coverage during the Combined Class Period. I obtained analyst reports on Sigma from the Thomson Research database published during the Combined Class Period by nine different firms: A.G. Edwards, BWS Financial, Collins Stewart, Deutsche Bank, Roth Capital Partners, Piper Jaffray, RBC Capital Markets, ThinkEquity Partners, and UBS.
50. Transcripts of Sigma's conference calls conducted during the Combined Class Period reveal that at least nine additional analysts followed Sigma: C.E. Unterberg Towbin, FBR Capital Markets, Goldman Sachs, Lazard, Montgomery & Co, Hudson Square Research, Needham & Company, Robert W. Baird, and TCS Financial.
51. Consequently, at least 18 different firms covered Sigma during the Combined Class Period.
52. Sigma was not an obscure company, escaping the notice of analysts. Rather, the Company was well known and widely covered.
53. Consistent with the *Cammer* opinion and financial economic principles, the coverage of Sigma by professional securities analysts is evidence of the efficiency of the market for Sigma common stock during the Combined Class Period.

Market Makers and Listing on the NASDAQ National Market System

54. The number of market makers is one of the factors the *Cammer* Court determined indicates market efficiency. Market makers are financial intermediaries who trade in a particular security, standing ready to buy and sell with individual investors, institutions, and other market makers.¹² Consequently, a large number of market makers implies that many market participants are trading that particular stock, which generally provides a high degree of liquidity and a narrower bid-ask spread. With a large number of market makers it is generally easy for investors to execute trades in a timely fashion and with reasonable transaction costs.
55. The subject company of the lawsuit in the *Cammer* case, Coated Sales, Inc., was listed on the NASDAQ, an over-the-counter market consisting of multiple competing market makers, using electronic systems to make quotes and effect trades. The *Cammer* Court's

¹² Since 1 August 2006, NASDAQ has operated as a registered stock exchange, continuing to use the market maker structure and electronic trading systems (The Nasdaq Stock Market, Inc., Form 10-K for the Fiscal Year Ended 31 December 2006, filed 28 February 2007, p. 6).

understanding that the market-making infrastructure of a stock market is indicative of its efficiency, or lack thereof, makes the fact that Sigma common stock traded on the NASDAQ National Market System, one of the most renowned, most liquid, and most efficient forums for trading stocks in the world, highly relevant.

56. In fact, citing Bromberg and Lowenfels, the *Cammer* Court explicitly acknowledged the importance of a NASDAQ listing and the implications of such a listing for market efficiency.

“We think that, at a minimum, there should be a presumption – probably conditional for class determination – that certain markets are developed and efficient for virtually all the securities traded there: the New York and American Stock Exchanges, the Chicago Board Options Exchange and the NASDAQ National Market System.”

Cammer, 711 F. Supp. at 1292 (quoting Bromberg and Lowenfels, *Securities Fraud and Commodities Fraud*, §8.6, 1988).

57. While the identities of market makers for Sigma stock during the Combined Class Period is unavailable currently from Bloomberg, I was able to obtain from Bloomberg the list of Sigma market makers active in calendar year 2010. Bloomberg indicated there were 281 market makers for Sigma common stock in 2010. There is no reason to believe the number of market makers would have changed materially so that 2010 would be unrepresentative of the Combined Class Period with respect to the number of market makers.
58. Additionally, during the Combined Class Period, firms including A.G. Edwards, C.E. Unterberg Towbin, Collins Stewart, Deutsche Bank, Piper Jaffray, RBC Capital Markets, Roth Capital Partners, ThinkEquity Partners, and UBS stated in their equity analyst reports that they each made a market in Sigma stock.
59. The fact that Sigma traded on the NASDAQ, with access to a highly developed and large network of market makers, is strong evidence that Sigma common stock traded in an efficient market throughout the Combined Class Period. These facts are compelling evidence of the efficiency of the market for Sigma stock throughout the Combined Class Period.

S-3 Registration Eligibility

60. A company is eligible for S-3 registration when, among other things, it has filed Exchange Act reports for a specified length of time and has outstanding float above a certain sizable value. At the time of the *Cammer* opinion, the conditions for S-3 registration were that a company had filed financial reports with the SEC for 36 months, and had outstanding float over \$150 million held by non-affiliates, or \$100 million of such float coupled with annual trading volume exceeding 3 million shares. Since 1992 the rules have required 12 months of filings and \$75 million of float.
61. The *Cammer* Court noted that S-3 registration eligibility is indicative of market efficiency because the filing requirement ensured that financial data was available to market participants, and the size and volume requirements indicated that many market participants would have examined the information.

“Proposed Form S-3 recognizes the applicability of the efficient market theory to the registration statement framework with respect to those registrants which usually provide high quality corporate reports, including Exchange Act reports, and whose corporate information is broadly disseminated, because such companies are widely followed by professional analysts and investors in the market place. Because of the foregoing observations made by the SEC, the existence of Form S-3 status is an important factor weighing in favor of a finding that a market is efficient.”

Cammer, 711 F. Supp. at 1284-85.

“The ‘public float’ aspect of the Form S-3 requirements ensures that enough investors have in fact read the previously filed document.”

Id. at 1285.

“Again, it is the number of shares traded and value of shares outstanding that involve the facts which imply efficiency.”

Id. at 1287.

Float Requirement Satisfied

62. A company's float is the number or value of shares that can potentially trade freely in the marketplace. It is generally defined as the number or value of outstanding shares, minus insider holdings and shares owned by affiliated corporate entities.¹³
63. I computed Sigma's common stock float using data on shares outstanding and insider holdings presented in the Company's SEC filings, and stock price data obtained from CRSP.¹⁴
64. Sigma common stock float averaged \$1.15 billion during the Combined Class Period, far exceeding the level required for S-3 registration. During the Combined Class Period, float ranged between \$649 million and \$1.96 billion, always exceeding the minimum requirement for S-3 registration eligibility.

Financial Filings

65. Sigma regularly filed financial reports with the SEC during the Combined Class Period.
66. Prior to the Combined Class Period, on 20 April 2007, the Company became current with its SEC filings when it filed its outstanding forms 10-Q for 2Q and 3Q for fiscal year 2006 and 10-K for fiscal year 2006.
67. The financial information in the SEC filings, supplemented by information provided by analysts and news coverage, provided investors with access to financial information about the Company on a continuous basis.
68. To the extent that S-3 registration eligibility indicates company characteristics associated with market efficiency, and in particular characteristics of size, transparency, and the availability of relevant financial information, the Company evidenced those particular characteristics throughout the Combined Class Period.

¹³ For a discussion of the generally accepted definitions of shares outstanding and float, see "Float Adjustment Methodology," *S&P Dow Jones Indices*, July 2012.

¹⁴ Float value is based on closing prices and share data provided by CRSP. Insider holdings data is obtained from SEC filings.

Krogman Factors

69. In addition to evaluating market efficiency using the *Cammer* factors, I also examined Sigma common stock and its market with respect to the three additional *Krogman* factors.

Market Capitalization

70. During the Combined Class Period, Sigma's market capitalization averaged \$1.25 billion. Compared to other companies over the course of the Combined Class Period, Sigma's market capitalization during the Combined Class Period ranked it in the 3rd decile of U.S. companies on average – meaning that Sigma was larger than at least 70% of all other publicly-traded companies in the U.S.¹⁵
71. Consistent with the *Krogman* Court's opinion, Sigma's market capitalization throughout the Combined Class Period is further evidence of the efficiency of the market for Sigma stock.

Float

72. Sigma's common stock float averaged \$1.15 billion during the Combined Class Period. While float excludes shares held by insiders and affiliated corporate entities, Sigma's float was still larger than the entire market capitalization of at least 70% of all other publicly-traded companies in the U.S. on average throughout the Combined Class Period.¹⁶ The magnitude of Sigma's float is indicative of market efficiency.
73. Float can also be analyzed as a percentage of total shares outstanding, as well as in absolute share terms. On average, during the Combined Class Period, there were 24.8 million shares in the float and 27.1 million shares outstanding, resulting in an average float of 92% of shares outstanding. Sigma's substantial float is indicative of the efficiency of the market for its stock during the Combined Class Period.

¹⁵ Using month-end data from CRSP from 29 June 2007 to 29 February 2008, I grouped public companies into deciles, so that the 1st decile contains the largest 10% of all public companies listed on the NYSE, American Stock Exchange, and NASDAQ, while the 10th decile contains the smallest 10%, and averaged the Company's ranking over the Combined Class Period.

¹⁶ Using month-end data from CRSP for June 2007 to February 2008. For a discussion of the generally accepted definitions of shares outstanding and float, see "Float Adjustment Methodology," *S&P Dow Jones Indices*, July 2012.

Bid-Ask Spread

74. I obtained data on daily closing bid and ask quotes for Sigma common stock from CRSP.
75. I measured the percentage bid-ask spread as the difference between the bid and ask quotes, divided by the average of the bid and ask quotes, which is the standard way of measuring percentage bid-ask spreads in the finance literature. Exhibit-4 presents Sigma's bid-ask spread data.
76. The average bid-ask spread for Sigma stock over the course of the Combined Class Period was 0.10%.
77. By comparison, the average month-end bid-ask spread over the course of the Combined Class Period for all stocks in the CRSP database was 0.81%. Sigma's bid-ask spreads were therefore narrower than the mean level among all other CRSP stocks – which comprises stocks traded on the NYSE, NYSE MKT, NASDAQ, and NYSE Arca.
78. In dollar terms, Sigma's bid-ask spread during the Combined Class Period averaged \$0.05 per share. For all stocks in the CRSP database, the average bid-ask spread was \$0.15.
79. The average bid-ask spread for Sigma stock over the course of the Combined Class Period was well below the typical bid-ask spreads exhibited by other publicly-traded stocks in the U.S. Sigma's narrow bid-ask spread supports a conclusion of market efficiency.

EMPIRICAL EVIDENCE OF SIGMA COMMON STOCK MARKET EFFICIENCY

80. Of the five *Cammer* factors, the empirical factor was cited by the *Cammer* Court as “one of the most convincing ways to demonstrate efficiency”:

“As previously noted, one of the most convincing ways to demonstrate efficiency would be to illustrate over time, a cause and effect relationship between company disclosures and resulting movements in stock price.”
Cammer, 711 F. Supp. at 1291.

81. The special importance the *Cammer* Court placed on the empirical factor is justified by economic principles, as the empirical factor focuses on the essence of market efficiency whereas the other four factors are indicators that generally signal market efficiency.
82. I conducted an event study which is an empirical test of the efficiency of the market for Sigma common stock.

83. The event study examines earnings announcements that occurred during the Combined Class Period. This test addresses whether Sigma common stock exhibited market efficiency over the course of the Combined Class Period by examining whether the common stock responded to the increased flow of information that generally transpires on earnings announcement dates.
84. This test compares the behavior of Sigma common stock price on the selected information event dates to the behavior of the stock price on all other dates in the Combined Class Period, to determine whether the stock price reacts to event date information, which is the defining characteristic of market efficiency.
85. I examined earnings announcements individually using *t*-tests for significance of the stock price movements, and also analyzed the results collectively using a binomial test and Ansari-Bradley volatility tests. A consistent pattern of the stock price moving more on days on which there is a greater flow of new information than on all other more typical days, indicates market efficiency. That is, I compared the frequency of significant event reactions to the general frequency of significant reactions among non-event dates. A greater frequency of significant price movements among event dates as compared to all other days indicates market efficiency.

Event Study Test of Market Efficiency

86. The event study is the paramount tool for testing market efficiency, as renowned financial economist and Nobel laureate Eugene Fama attests:

“The cleanest evidence on market-efficiency comes from event studies, especially event studies on daily returns. When an information event can be dated precisely and the event has a large effect on prices, the way one abstracts from expected returns to measure abnormal daily returns is a second-order consideration. As a result, event studies give a clear picture of the speed of adjustment of prices to information.”

“Efficient Capital Markets: II,” by Eugene F. Fama, *Journal of Finance*, 1991, p. 1607.

87. Event study analysis is one of the most commonly used analytic methodologies employed by finance researchers. Campbell, Lo, and MacKinlay [1997] present an excellent description and examples of the methodology and write about how it is generally accepted

and widely used in academic research.¹⁷ Tabak and Dunbar [2001]¹⁸ and Crew, *et al.*, [2007]¹⁹ write about how the methodology is generally accepted and widely used in forensic applications.

88. An event study measures how much a stock price rises or falls in response to new information. Statistical regression analysis determines how much of a stock price change is explained by market and peer group factors, rather than company-specific information, so that those influences can be statistically factored out. The portion of a stock price change that cannot be attributed to market and peer group factors is called the “residual” stock price movement or “residual return.” The event study isolates the residual return and also tests whether the residual return can reasonably be explained as merely a random fluctuation.
89. If the stock return over an event period is statistically significant, it indicates that the stock price movement cannot be attributed to market and peer group factors, or to random volatility, but rather was caused by company-specific information. Such proof of a cause and effect relationship between new material information and the reaction in the stock price establishes market efficiency.

Earnings Announcement Events

90. A company’s financial results and forecasts are among the most important considerations to investors assessing the value of its stock. Consequently, such announcements typically contain material information that could cause the stock price to change.

“No other figure in the financial statements receives more attention by the investment community than earnings per share. The relationship between accounting earnings and security prices is probably the single most important relationship in security analysis, and its prominence is reflected in the attention given to price-earnings ratios.”

Financial Reporting: An Accounting Revolution, 3rd ed., William H. Beaver, 1998, p. 38.

¹⁷ Chapter 4 of *The Econometrics of Financial Markets*, by John Y. Campbell, Andrew W. Lo, and A. Craig MacKinlay, Princeton University Press, 1997.

¹⁸ “Materiality and Magnitude: Event Studies in the Courtroom,” by David Tabak and Frederick Dunbar, in *Litigation Services Handbook*, 3rd edition, John Wiley & Sons, New York, 2001.

¹⁹ “Federal Securities Acts and Areas of Expert Analysis,” by Nicholas I. Crew, et al., in Chapter 18 of the *Litigation Services Handbook; The Role of the Financial Expert*, 4th ed., edited by Roman L. Weil, Peter B. Frank, Christian W. Hughes, and Michael J. Wagner, John Wiley & Sons, Inc., 2007.

“Analysts, investors, senior executives, and boards of directors consider earnings the single most important item in the financial reports issued by publicly held firms.”

“**Earnings Management to Exceed Thresholds,**” Francois Degeorge, Jayendu Patel, and Richard Zeckhauser, *Journal of Business*, 1999, p. 1.

91. Numerous well-known and highly-regarded academic studies (for example, Beaver [1968], Ball and Brown [1968], Ball [1978], Watts [1978], Patell and Wolfson [1984], and Ball and Kothari [1991]) have specifically examined stock price movements caused by earnings announcements, and concur that earnings announcements are unusually important information events generally.
92. I tested whether the Sigma common stock price exhibited larger movements on earnings announcement and guidance days, which are known to be generally associated with increased information flow, as compared with more ordinary days over the course of the Combined Class Period. If the higher information days (“news days”) generally exhibited larger stock price movement than all other days (“non-news days”), collectively, this would indicate a cause and effect relationship between the release of information and stock price reaction, which is the hallmark of market efficiency.
93. Earnings were announced on the following dates during the Combined Class Period:
 - i. **29 August 2007** – after the close of trading, Sigma reported financial results for 2Q of FY 2008 (quarter ended 4 August 2007).²⁰
 - ii. **28 November 2007** – after the close of trading, Sigma reported financial results for 3Q of FY 2008 (quarter ended 3 November 2007).²¹
 - iii. **12 March 2008** – after the close of trading, Sigma reported financial results for 4Q and FY 2008 (quarter and fiscal year ended 2 February 2008).²²

²⁰ “Sigma Designs, Inc. Reports Second Quarter Results,” *Business Wire*, 29 August 2007.

²¹ “Sigma Designs, Inc. Reports Fiscal Third Quarter Results,” *Business Wire*, 28 November 2007.

²² “Sigma Designs, Inc. Reports Fourth Quarter and Fiscal 2008 Results,” *Business Wire*, 12 March 2008.

94. Because the announcements on 29 August 2007, 28 November 2007, and 12 March 2008 were each after the close of trading, for each of these events, the trading day on which the new information would impact Sigma stock price would have been 30 August 2007, 29 November 2007, and 13 March 2008 respectively. Consequently, for testing purposes, the event dates are 30 August 2007, 29 November 2007, and 13 March 2008 respectively.

Isolating the Impact of Company-Specific Information

95. Event study analysis determines how much of the Company's stock return following each of the events was driven by Company-specific information as opposed to market and peer group factors.
96. The method, which is generally accepted and widely used in econometric modeling, involves running regressions to determine how Sigma common stock typically behaved in relation to the overall stock market and its peer group, and then using the regression models to determine how much of each event day's actual return is explained by the market and peer group factors ("the explained return").
97. The explained return is then subtracted from the actual return, to isolate the residual return, which is the stock's return after controlling for market and peer group effects.
98. I ran regressions modeling the return of Sigma common stock as a function of: 1) a constant term, 2) the returns of the overall stock market, and 3) a peer group index return.
99. For the overall stock market factor I used the CRSP Market Total Return Index ("Market Index"), which is a generally accepted and widely used measure of the overall stock market performance. The CRSP Market Total Return Index appropriately incorporates payment of dividends by the constituent companies.
100. For the peer group, I constructed a value-weighted index using 8 companies Sigma identified as competitors in its annual 10-K statement during the Combined Class Period. The companies are: AMD (ATI Technologies), Analog Devices, Broadcom, Conexant Systems, Genesis Microchip, Pixelworks, ST Microelectronics, and Texas Instruments.^{23, 24}
101. Sigma's stock prices, dividends, trading volume, and returns are shown in Exhibit-4. The levels and returns of the Market Index and the Peer Index are presented in Exhibit-5.

²³ Sigma Designs, Inc., Form 10-K for the fiscal year ended 2 February 2008, filed 2 April 2008, p. 10.

²⁴ Sigma also identified Mediatek, NXP Semiconductors, and Tzero as competitors, however, trading price data was not available for those companies from CRSP.

102. It is important to control for potentially important events in the estimation (control) period, including those dates which are the subject of the event study analysis, so that the regression model results properly reflect typical stock price movements. I control for the potentially abnormal returns related to earnings and guidance announcements using dummy variables, which is a widely used and generally accepted methodology, as noted in the academic and finance literature.²⁵
103. I ran the regression on daily returns covering the Combined Class Period, 13 July 2007 through 12 March 2008. The choice of using the Combined Class Period for the regression estimation period is supported by widely used and generally accepted practices in event study analysis.

“Three general choices for the placement of an estimation window are before the event window, surrounding the event window, and after the event window.”

“Materiality and Magnitude: Event Studies in the Courtroom,” David I. Tabak and Frederick C. Dunbar in *Litigation Services Handbook, The Role of the Financial Expert*, 3rd ed., edited by Roman L. Weil, Michael J. Wagner, and Peter B. Frank, John Wiley & Sons, Inc., 2001, p. 19.19.

104. All returns used in the regression are logarithmic returns – that is, the natural logarithm of the ratio of the current day’s closing price plus dividends, to the previous day’s closing price. Logarithmic returns are commonly used in event studies and equity analysis. Analysts and researchers generally use logarithmic returns instead of percent price changes because of various computational advantages. The Appendix presents the mathematical formula for the logarithmic return and a discussion of the measure.
105. The regression results are presented in Exhibit-6.

²⁵ See: “Event Studies with a Contaminated Estimation Period,” by Nihat Aktas, Eric de Bodt, and Jean-Gabriel Cousin, *Journal of Corporate Finance*, 2007; “Measuring the Effects of Regulation with Stock Price Data,” by John J. Binder, *The RAND Journal of Economics*, 1985; “Intervention Analysis with Applications to Economic and Environmental Problems,” by G. E. P. Box and G. C. Tiao, *Journal of the American Statistical Association*, 1975; “Testing for Market Efficiency: A Comparison of the Cumulative Average Residual Methodology and Intervention Analysis,” by David F. Larcker, Lawrence A. Gordon and George E. Pinches, *Journal of Financial & Quantitative Analysis*, 1980; “Measuring Abnormal Performance: The Event Parameter Approach Using Joint Generalized Least Squares,” by Paul H. Malatesta, *The Journal of Financial and Quantitative Analysis*, 1986; “Conditioning the Return-Generating Process on Firm-Specific Events: A Discussion of Event Study Methods,” by Rex Thompson, *The Journal of Financial and Quantitative Analysis*, 1985.

106. I computed the explained portion of the Sigma common stock return on each event date by adding: 1) the estimated regression intercept term; 2) the respective day's Market Index return multiplied by the Market Index coefficient estimated by the regression; 3) the respective day's Peer Index return multiplied by the regression's Peer Index coefficient.
107. I then computed the residual return for each event date by subtracting the respective explained return from the actual return.

t-Test

108. For each event, a statistical test called a *t*-test was conducted to determine whether the residual return of Sigma stock was statistically significant. Statistical significance means that the event return after controlling for the market and peer group effects was of such magnitude that it cannot be explained by random volatility, but alternatively must have been caused by Company-specific information. A *t*-test compares the residual return on an event date to the typical residual return exhibited over the regression estimation period (control period). If the event date residual return is far greater (positively or negatively) than the typical residual return, the *t*-test indicates that the residual return is statistically significant.²⁶

Event Study Results

109. The results of the *t*-tests are that all three of the earnings announcements during the Combined Class Period caused statistically significant movements in the price of Sigma stock. The event study results are summarized in Exhibit-7.

29 August 2007

110. On 29 August 2007, after the close of trading, Sigma announced financial results for 2Q of FY 2008 for the quarter ended 4 August 2007. The company reported net revenues of \$42.5 million and GAAP net income of \$8.6 million. Net revenue was up 18% from \$36 million for the previous quarter.²⁷

²⁶ The test is called the *t*-test because it involves the computation of a *t*-statistic, which is the event day residual return divided by the standard deviation of residual returns from the control period. If the absolute value of the *t*-statistic is greater than the critical *t*-statistic value (1.96 for large samples), the likelihood that the residual return could have been caused by random volatility alone is less than 5%, which is generally accepted to be so unlikely that the random volatility explanation can be rejected, and the stock return for that day is deemed statistically significant.

²⁷ "Sigma Designs, Inc. Reports Second Quarter Results," *Business Wire*, 29 August 2007, 4:53 PM.

[Thinh Tran, Sigma Designs CEO] “We are pleased to report a record setting quarter for the company in terms of revenue and profitability. In our second quarter, we achieved a net revenue increase of 18%, our sixth consecutive quarter of double-digit revenue growth and \$8.6 million in GAAP net income. Our revenue increase is a result of the continued ramp in demand from the IPTV market as well as increases from high definition DVD player and HDTV product markets.”

“Sigma Designs, Inc. Reports Second Quarter Results,” *Business Wire*, 29 August 2007.

“Chipmaker Sigma Designs Inc’s quarterly earnings surged topping analysts’ estimates driven by increased chip sales to makers of Internet Protocol television set-top boxes, Blu-ray players and high-definition televisions.”

“Sigma Designs Quarterly Net Surges, Shares Rise,” *Reuters*, 29 August 2007.

“Sigma (SIGM) exceeded every conceivable estimate for 2Q which had no hair on it whatsoever. We are increasing our revenue and EPS estimates because of broad-based strength from IPTV and Blu-Ray. Digital Media Adapters (DMAs) and TVs are also lurking in the wings. We realize that expectations on Sigma’s fundamental performance are finally beginning to approach reasonable levels, but we believe there is some continued underappreciation for a combination of SIGM’s market opportunity and SIGM’s competitive position in it.”

“SIGM: Accelerating Hyper-Growth With Improving Gross Margin,” by Anton Wahlman and Eric Kainer, *ThinkEquity Partners LLC*, analyst report, 30 August 2007, p. 1.

111. On 30 August 2007, Sigma stock rose 10.02% (on a logarithmic return basis). The market return on that date was -0.38%, the Peer Index return was 0.37%. Based on the regression model, the explained portion of the return on Sigma stock was 0.01%. The difference between the actual return of 10.02% and the explained return of 0.01% is 10.01%.
112. A residual return of 10.01% is an unusually large one-day return for Sigma stock. That residual return is associated with a t-statistic value of 2.45, which indicates that the residual return was too severe to have been a random fluctuation. In fact, this t-statistic enables one to state with more than 95% confidence that the Sigma stock price increase that day did not occur by random chance alone, but was caused by Company-specific news.

28 November 2007

113. On 28 November 2007, after the close of trading, Sigma reported financial results for 3Q of FY 2008 for the quarter ended 3 November 2007. The company reported net revenues of \$66.2 million and GAAP net income of \$21.0 million. Net revenue was up 56% from \$42.5 million for the previous quarter.²⁸

[Thinh Tran, Sigma Designs CEO] “We are extremely pleased to report another record setting quarter for the company in terms of revenue and profitability. In our third quarter, we achieved a revenue increase of 56% to reach \$66.2 million, our eighth consecutive quarter of double-digit sequential revenue growth. Our outstanding revenue increase was a result of increased demand from the IPTV set-top box market and high definition DVD players.”

“Sigma Designs, Inc. Reports Fiscal Third Quarter Results,” *Business Wire*, 28 November 2007.

“Sigma Designs Inc., a maker of chips used in set-top boxes and DVD players, said Wednesday its third-quarter profit surged on sales of chips to makers of IPTV set-top boxes and Blu-ray players. The company earned \$21 million, or 72 cents per share, compared with a profit of \$2.7 million, or 11 cents per share, during the same period a year prior. Revenue rose to \$66.2 million from \$25.1 million. The results easily beat estimates of analysts polled by Thomson Financial, who expected profit of 55 cents per share on revenue of \$51.8 million.”

“Sigma Designs 3rd-Quarter Profit Surges on Leap in Chip Sales to IPTV, Blu-ray Makers,” *Associated Press*, 28 November 2007.

“Undisputed Leader in IPTV and High Def DVD

The company demonstrated its leadership position once again in two of the fastest growing consumer end-markets (IPTV and high definition DVD) by reporting a very strong +56% growth quarter. We continue to believe that SIGM can maintain its leadership position in these end-markets which should translate to above-average revenue and earnings growth in 2008 and beyond.”

“Sigma Designs Inc Delivers the Goods,” by Sukhi Nagesh and Ross Seymore, *Deutsche Bank*, analyst report, 28 November 2007, p. 1 (emphasis in original).

²⁸ “Sigma Designs, Inc. Reports Fiscal Third Quarter Results,” *Business Wire*, 28 November 2007.

114. On 29 November 2007, Sigma stock rose 10.11% (on a logarithmic return basis). The market return on that date was -0.03%, the Peer Index return was -0.78%. Based on the regression model, the explained portion of the return on Sigma stock was -0.56%. The difference between the actual return of 10.11% and the explained return of -0.56% is 10.67%.
115. A residual return of 10.67% is an unusually large one-day return for Sigma stock. That residual return is associated with a t-statistic value of 2.61, which indicates that the residual return was too severe to have been a random fluctuation. In fact, this t-statistic enables one to state with more than 95% confidence that the Sigma stock price increase that day did not occur by random chance alone, but was caused by Company-specific news.

12 March 2008

116. On 12 March 2008, after the close of trading, Sigma reported financial results for 4Q 2008 and the 2008 fiscal year ended 2 February 2008. The company reported 4Q net revenues of \$76.4 million and GAAP net income of \$35.3 million. Net revenue was up 15% from \$66.2 million for the previous quarter. The Company also reported fiscal year 2008 net revenues of \$221.2 million and GAAP net income of \$70.2 million.²⁹ Later that day, the Company announced during their Q4 2008 earnings conference call that orders from one of their largest set-top box customers will be much smaller in the next quarter. As a result, the Company provided lower than expected fiscal 1Q 2009 revenue guidance.³⁰

[Thinh Tran, Sigma Designs CEO] “there are recent orders that resulted in us shipping more products than the actual Telco demand, which I will now explain. One of the largest Telco accounts placed order while set-top box customer which were apparently well above actual deployment. As a result, the order during our first quarter will be much smaller than normal and the order rate for the second quarter should then resume at the ongoing rate of deployment.

...

So looking ahead, this is what we would expect. We expect first quarter revenue to be approximately 60 million as a result of the one-time adjusted demand that I just described.”

“Q4 2008 Sigma Designs Earnings Conference Call,” Thomson StreetEvents, 12 March 2008, 5:00 PM ET, p. 7.

²⁹ “Sigma Designs, Inc. Reports Fourth Quarter and Fiscal 2008 Results,” *Business Wire*, 12 March 2008.

³⁰ “Q4 2008 Sigma Designs Earnings Conference Call,” *Thomson StreetEvents*, 12 March 2008, 5:00 PM ET, p. 7.

“Shares of Sigma Designs Inc. dropped Thursday morning after the chip maker reported adjusted fourth-quarter profit below Wall Street estimates, leading an analyst to lower his rating. ... Inventory problems at Motorola Inc., one of the company’s top customers, led Sigma Designs to cut its fiscal first-quarter revenue expectations. While problems are probably not customer-specific, they may not be resolved by the end of the period, the analyst said.”

“Shares of Sigma Designs Slide After 4th-Quarter Earnings Miss, Analyst Downgrade,” by Ernest Scheyder, *Associated Press*, 13 March 2008.

“Event: Reducing Estimates due to Inventory Adjustment Investment Opinion

Motorola just bought too much product last quarter and it’s evident in Sigma’s inventories which increased 40% sequentially from \$18.9M to \$26.3M. In terms of the outlook for the April quarter, which will be an inventory adjustment period, Sigma is endorsing revenues of \$60M (-20% QoQ) vs. our prior reduced estimate of \$77M, which in turn was reduced from \$86M. Sigma does expect some resumption in sequential growth in the subsequent July quarter.”

“Whacked in the Head with a Motorola Bat,” by Mark Sue, *RBC*, analyst report, 13 March 2008, p. 1. (emphasis in original).

117. On 13 March 2008, Sigma stock fell 17.99% (on a logarithmic return basis). The market return on that date was 0.73%, the Peer Index return was 1.78%. Based on the regression model, the explained portion of the return on Sigma stock was 2.22%. The difference between the actual return of 17.99% and the explained return of -2.22% is -20.21%.
118. A residual return of -20.21% is an unusually large one-day return for Sigma stock. That residual return is associated with a t-statistic value of -4.95, which indicates that the residual return was too severe to have been a random fluctuation. In fact, this t-statistic enables one to state with more than 95% confidence that the Sigma stock price increase that day did not occur by random chance alone, but was caused by Company-specific news.

Collective Analysis of Price Movements on Earnings Announcement Dates

119. A cause and effect relationship between the release of information and reaction in the stock price is established if there is a higher frequency of statistically significant events within a sample of dates on which there was a greater flow of new information, as compared to the ordinary frequency of statistically significant events within the control sample of typical days.

120. Specifically, in this case, if the frequency of significant price movements is statistically significantly greater for earnings announcement days than for ordinary days, the finding would indicate that Sigma's stock price responds to the higher information flow on earnings and announcement days, demonstrating market efficiency.
121. By construction, approximately 5% of ordinary non-event dates are of such magnitude as to appear to be statistically significant. For Sigma, 100% of the earnings events (3 of 3) exhibited statistical significance. This difference in frequencies is meaningful, significant, and indicates market efficiency.
122. Under a null hypothesis that Sigma's stock does not behave any differently on earnings and guidance announcement dates than on ordinary days, there would be only a 5% probability that any such individual event would elicit a statistically significant stock price reaction at the 95% confidence level. Under the hypothesis that the stock price behaves no differently on earnings announcement days than on ordinary days, the probability that 3 of 3 such events would be statistically significant is less than 1 in 8,000. This probability is assessed using a binomial distribution, computing the likelihood of 3 out of 3 positive results (of individual statistical significance) where a positive result has a probability of 5% and a negative result has a probability of 95%.³¹
123. Therefore, based on the finding that 3 of the 3 earnings announcement event dates were indeed statistically significant, we can conclude that Sigma's stock did react to earnings announcements, demonstrating market efficiency throughout the Combined Class Period.

F-Test and Ansari-Bradley Test Conducted on Earnings and Guidance Announcement Events

124. I conducted additional tests to ascertain whether the stock price movements on earnings and guidance dates indicate market efficiency, or alternatively, inefficiency. These tests were the F-test and Ansari-Bradley tests, which are described next.

³¹ For more explanation about this test and computation, see for example, *Introduction to Mathematical Statistics*, by Robert V. Hogg, Joseph W. McKean, and Allen T. Craig, 6th Edition, Pearson Prentice Hall, 2005, pp. 133-134.

125. Announcements of financial results and guidance sometimes constitute unexpected good news and sometimes constitute unexpected bad news. In an efficient market, the stock would rise after unexpected good news and fall after unexpected bad news. Therefore, there would be a wider dispersion of returns on earnings announcement dates, as long as some of the announcements contained some unexpected good or bad news.
126. It follows that if the dispersion of Sigma stock returns on earnings announcement days was significantly greater than the dispersion of Sigma stock returns on all other days in the Combined Class Period, this finding would further demonstrate that the stock price reacted to news over the course of the Combined Class Period, which establishes market efficiency. I ran an F-test and Ansari-Bradley test to determine whether or not this is the case. These tests focus on return dispersion.
127. I ran both tests on the “residual returns” for Sigma common stock, that is, the computed portion of the stock returns remaining after controlling for the impact of market and peer group effects. Running the tests on residual returns focuses the tests more precisely on the effects of Company-specific information on the Company stock price.

F-Test

128. The sample standard deviation of the earnings announcement days’ residual returns was 17.64%. The sample standard deviation of all other days’ returns was 4.06%. Clearly, the earnings announcement days’ sample standard deviation was greater than the sample standard deviation for all other days—over four times greater.
129. An F-test assesses whether the difference between the two sample standard deviations is statistically significant, or alternatively, a potentially random result. The F-statistic for these two samples is 18.89, which is greater than the 95% confidence level critical F-statistic value of 3.05 (with 165 and 2 degrees of freedom), indicating that the difference in sample standard deviations is statistically significant.

130. The F-test finds that the dispersion of earnings announcement days' returns is significantly greater than the dispersion of returns for all other days. This result demonstrates that the price of Sigma's common stock moved more on earnings announcement days than on other days. This statistical result indicates that there was a cause and effect relationship between the release of new information and reactions in the Sigma common stock price, which therefore establishes that Sigma common stock traded in an efficient market.

Ansari-Bradley Test

131. The Ansari-Bradley test is another test that determines whether or not two data samples have significantly different dispersions, which, as discussed above, when applied to a sample of earnings announcement dates, in comparison to all other dates, would indicate market efficiency. The Ansari-Bradley test is a well-regarded and generally accepted test for comparing sample dispersions and is presented and described in numerous authoritative textbooks.³²
132. Applied to the earnings event returns and the sample of all other returns observed during the Combined Class Period, the Ansari-Bradley test, like the F-test, finds with an extremely high degree of statistical certainty that the dispersion of earnings event returns was significantly greater than the dispersion of returns on all other days. The Ansari-Bradley C-statistic for the two samples of Sigma stock residual returns is -2.9, the absolute value of which is greater than the critical C-statistic threshold of 1.96 for significance at the 95% confidence level. This result is further proof that the price of Sigma common stock moved more on earnings and guidance announcement days than on other days during the Combined Class Period.
133. This statistical test result indicates that there was a cause and effect relationship between the release of new information and reactions in the Sigma common stock price, which therefore establishes that Sigma common stock traded in an efficient market during the Combined Class Period.

³² For example: *Practical Nonparametric Statistics*, 2nd edition, by J.W. Conover, John Wiley & Sons, 1980; *Applied Nonparametric Statistics*, by Wayne W. Daniel, Houghton Mifflin, 1978; *Nonparametric Statistical Methods*, by Wolfe Hollander, John Wiley & Sons, 1973; *Beyond ANOVA: Basics of Applied Statistics*, by Rupert, G. Miller, Jr., John Wiley & Sons, 1986; and *Biostatistical Analysis*, 3rd edition, by Jerrold H. Zar, Prentice-Hall, 1996.

MARKET EFFICIENCY SUMMARY

134. Sigma stock traded on the NASDAQ where trading is facilitated by market makers. The Company was well covered by analysts. Trading was active. Market capitalization and float were sizable. Financial information about the Company was readily available to investors and analysts. The stock's bid-ask spread was narrow.
135. Not only did the market for Sigma common stock satisfy the *Cammer* and *Krogman* factors that indicate market efficiency, but it also satisfied the empirical *Cammer* factor, which demonstrates the essence of market efficiency.
136. The event study, significance test, and Ansari-Bradley test each proved that there was a consistent cause and effect relationship between important new information and appropriate movements in the Sigma stock price.
137. Given these facts, I conclude that Sigma common stock traded in an efficient market over the course of the Combined Class Period and that earnings information was observably treated by the market as highly material information.

DAMAGES

Damages to Market Participants

138. As stated in the Third Amended Complaint, there are three Class Periods relevant to this action. There is a Seller Class Period, 13 July 2007 – 29 August 2007 (“Class Period S–1”); a Seller Class Period, 11 September 2007 – 28 November 2007 (“Class Period S–2”); and a Buyer Class Period, 20 December 2007 – 12 March 2008 (“Class Period B”).
139. Plaintiffs’ counsel requested that I compute the damages to market participants in Sigma common stock in connection with Defendants’ alleged trading in Sigma stock while in possession of material, non-public information about Sigma during each of the three Class Periods, in accordance with the statute.³³
140. The statute provides that persons engaged in insider trading are liable for damages to other market participants who trade “contemporaneously” with the insiders.

³³ 15 USC § 78t-1

“Any person who violates any provision of this title [15 USCS §§ 78a et seq.] or the rules or regulations thereunder by purchasing or selling a security while in possession of material, nonpublic information shall be liable in an action in any court of competent jurisdiction to any person who, contemporaneously with the purchase or sale of securities that is the subject of such violation, has purchased (where such violation is based on a sale of securities) or sold (where such violation is based on a purchase of securities) securities of the same class.”

15 USC § 78t-1(a)

141. Plaintiffs’ attorneys instructed me to consider various definitions of contemporaneous periods in estimating damages. To that end, I provided estimates for six different definitions of “a contemporaneous period”. The first definition of contemporaneous period is the very same day that Defendants traded, which is denoted “T+0”. The second definition, denoted “T+1”, comprises the day that Defendants traded and the next trading day. The next three definitions of contemporaneous period each include one additional incremental day after the Defendants’ trade date, respectively, and are denoted “T+3”, “T+4”, and “T+5”.
142. The aggregate market damages presented for period T+1 below are the sum of the damages suffered by investors who traded on the same day as Defendants or on the next trading day, that is, in the period denoted T+1. Damages for T+2 through T+5 are defined similarly.
143. I estimated damages to market participants who purchased Sigma shares during the Buyer Class Period. I also estimated damages to market participants who sold Sigma shares during Class Period S–1 and Class Period S–2. The computation of damages is described next.

Per Share Damages

144. According to the Plaintiffs’ allegations, market participants during the two portions of the Seller Class Period who sold stock contemporaneously with Defendants’ purchases, did so at artificially deflated prices relative to what they would have received had the material, non-public information been disclosed. Consequently, members of the Seller Class suffered damages.³⁴ Similarly, members of the Buyer Class who purchased stock contemporaneously with Defendants’ sales, did so at artificially inflated prices relative to

³⁴ Complaint, ¶166.

what they would have paid had the material, non-public information been disclosed.

Consequently, members of the Buyer Class suffered damages.³⁵

145. Artificial inflation (deflation) is the difference between the actual stock price at a point in time, and what the price would have been had material nonpublic information been disclosed. When the stock price falls (rises) on account of the disclosure of the material nonpublic information, the inflation (deflation) dissipates.
146. In order to determine the effect of the disclosure of the material nonpublic information on the Sigma share price, I conducted an event study as previously discussed.
147. The event study I conducted above in the analysis of the efficiency of the market in Sigma stock also measures the effects of the disclosures of material nonpublic information alleged in the Complaint, after controlling for the effects of market and industry influences. The statistical significance of these price movements indicates, to a high degree of statistical certainty, that Company-specific information caused the movements in the price of Sigma stock on those dates.
148. I have determined the artificial inflation and deflation in Sigma's stock price for the Class Period S-1, 13 July 2007 – 29 August 2007, the Class Period S-2, 11 September 2007 – 28 November 2007, and for the Buyer Class Period, 20 December 2007 – 12 March 2008 as shown in Table-1.

Table-1. Class Period Artificial Inflation and Deflation

	Disclosure Event Date	Stock Price (Close)	Company-Specific Return (Residual, Logarithmic)	Artificial Inflation (Deflation)
Class Period S-1	08/30/2007	\$ 42.70	10.01%	\$(4.07)
Class Period S-2	11/29/2007	\$ 65.43	10.67%	\$(6.66)
Class Period B	03/13/2008	\$ 21.10	-20.21%	\$ 4.62

³⁵ Complaint, ¶169.

Volume of Damaged Shares

149. For each date on which Defendants allegedly traded on the basis of material, nonpublic information, I estimated the total number of shares damaged for each contemporaneous period definition from T+0 to T+5. For the two portions of the Seller Class Period, I included the dates on which Defendants executed purchases of Sigma stock, and for the Buyer Class Period, I included dates on which Defendants either sold shares of Sigma stock outright, or sold short in Sigma.
150. Sigma common stock traded on NASDAQ, where market makers routinely trade stocks with market participants but do not themselves ordinarily trade and hold stocks for investment purposes. As a result, a “trade” (or transfer of stock ownership between two investors) normally involves two reported transactions, a sale by the seller to the market maker and a purchase by the buyer from the market maker. For this reason I adjusted the total reported trading volume to remove the effect of the market maker trades. I appropriately adjusted the trading data to remove one half of the reported daily volume.
151. The resulting amounts of damaged shares for the Class Periods are summarized in Table-2 for each range of relevant trade days.

Table-2. Class Period Adjusted Market Volumes

Class Period	Contemporaneous Period					
	T+0	T+1	T+2	T+3	T+4	T+5
	(Millions of shares)					
Class Period S-1	26.5	42.0	50.6	58.1	64.0	73.1
Class Period S-2	58.7	90.3	126.8	150.6	164.1	174.4
Class Period B	196.3	229.9	261.4	291.7	316.9	327.8
Total	281.5	362.2	438.9	500.4	545.0	575.2

Aggregate Damages

152. Combining the measures of per-share deflation/inflation reported above in Table-1 with the adjusted market volumes reported above in Table-2 results in the investor damages for each Class Period summarized in Table-3.

Table-3. Class Period Investor Damages

Class Period	Contemporaneous Period					
	T+0	T+1	T+2	T+3	T+4	T+5
	(\$ in Millions)					
Class Period S-1	\$ 107.9	\$ 170.5	\$ 205.8	\$ 236.3	\$ 260.2	\$ 297.0
Class Period S-2	\$ 390.6	\$ 601.4	\$ 844.4	\$ 1,002.5	\$ 1,092.3	\$ 1,160.9
Class Period B	\$ 907.3	\$ 1,062.9	\$ 1,208.6	\$ 1,348.4	\$ 1,465.0	\$ 1,515.1
Total	\$ 1,405.7	\$ 1,834.8	\$ 2,258.8	\$ 2,587.2	\$ 2,817.5	\$ 2,972.9

Limits of Liability

153. The statute also limits the liability of insider traders.

“The total amount of damages imposed under subsection (a) shall not exceed the profit gained or loss avoided in the transaction or transactions that are the subject of the violation.”

15 USC § 78t-1(b)(1)

154. Following the statute, in order to calculate the limit of Defendants’ liability, it is necessary to determine the profit gained by Defendants for shares purchased while in possession of alleged material nonpublic information and later sold, as well as profit gained by Defendants for shares sold short while in possession of alleged material nonpublic information and later covered. It is also necessary to determine the losses avoided by Defendants for shares sold while in possession of alleged material nonpublic information. These profits and avoided losses can be calculated from Defendants’ trading records using assumptions concerning the matching of buys and sells, and the treatment of positions retained at the end of the relevant period.

155. Plaintiffs’ attorneys provided me with trading records for three Sonar funds trading in Sigma stock over the period from 10 January 2006 through 31 May 2008. The three funds include: Sonar Overseas Fund, Ltd. (“Overseas”), Sonar Partners, LP (“Partners”), and Sonar Institutional Fund, LP (“Institutional”) (collectively referred as the “Funds”).

156. The Funds' trading records show numerous ordinary ("long") trades, both buys and sells, in Sigma common stock by all three Funds. These data show as well numerous short sale and buy-to-cover ("short") trades. Additionally, the Funds bought and sold options on Sigma stock. Those trading records comprise a spreadsheet labeled with bates number Gordon 001363, and copies of paper transaction records bates numbered Sonar 016544 through Sonar 017683. I am advised by Plaintiffs' counsel that the parties have stipulated that the paper transaction records Sonar 016544 through Sonar 017683 accurately reflect all of the Funds' transactions in Sigma securities during the Class Periods and I have assumed that to be the case. I have been advised by Plaintiffs' counsel that the spreadsheet numbered Gordon 001363 accurately and completely reflect the Funds' transactions in Sigma securities set forth in the Sonar paper transaction records, and I have assumed that to be the case.

Seller Class Period

157. During the Seller Class Period the Sonar Funds bought shares of Sigma stock while allegedly in possession of material nonpublic information indicating that the Company would report better-than-expected earnings, which would be highly likely to cause the stock price to increase when the earnings were announced. The trade records detail the Funds' sales of Sigma stock subsequent to these purchases, both within the same Class Period as well as afterwards. The profits on shares bought by the Funds during the Seller Class Period and later sold are determined by the difference in their purchase and sale prices net of commission costs.
158. While the net sale price of shares sold is specified in the trade records, the available data does not indicate which purchase of stock in a Fund's account was the source of the shares being sold. Since the purchase price must be established in order to calculate the profit from the sale of the shares, it is necessary to make assumptions about the matching of shares sold to the purchase of those shares, and these trade matching assumptions can affect the profits assigned to any specific set of purchase or sale transactions, including those in the Class Periods. The various trade matching algorithms I employed, and the resulting calculations of trading profits, are discussed below.

159. In some cases, Sigma shares purchased by the Funds during the Seller Class Period are not later sold according to the trading records. The amounts of these unsold shares purchased during the Class Period is affected by the algorithm used for matching buy and sell trades. In both portions of the Seller Class Period, I calculate the imputed profit of shares that are not sold, according to the trading records, as the difference between their purchase price and the market closing price at the end of the trade day on which the alleged material nonpublic information (the Company's earnings) is reflected in the stock price. In each case this is the market closing price on the trade day following the disclosure of the material, non-public information and the end of the respective portion of the Seller Class Period, 30 August 2007 for Class Period S-1 and 29 November 2007 for Class Period S-2.

Buyer Class Period

160. During the Buyer Class Period, the Sonar Funds sold shares of Sigma stock while allegedly in possession of material nonpublic information, indicating that the Company would report worse-than-expected earnings, which would be highly likely to cause the stock price to fall when the earnings were announced. As a result, the Funds avoided losses by selling shares before the material nonpublic information was announced, and as a result market participants who purchased shares contemporaneously to the Sonar Funds' sales were damaged. The extent of Defendants' avoided losses are determined by the difference between the price at which the Funds sold shares during the Buyer Class Period, and the closing price of Sigma stock after the material nonpublic information (the Company's earnings) is publicly disclosed and reflected in the market price of Sigma stock. For the Buyer Class Period, the market price of Sigma stock reflected the previously nonpublic material information by the close of trading the day after the disclosure of the material information. For the Buyer Class Period, that trade date was 13 March 2008.
161. In addition to selling shares held, the Funds engaged in short selling of Sigma stock during this period. The trade records detail the Funds' short sales within the Buyer Class Period as well as buys-to-cover subsequent to these short sales, both within and after the Class Period. The profits on shares sold short by the Funds during the Buyer Class Period are determined either by the difference between the prices at which the shares were short sold by the Funds and the prices at which those short positions are later covered, or the imputed price necessary to execute a buy-to-cover the short position, if the short position is open at

the end of the Class Period. In other words, open short positions for which there is no record of a covering purchase are treated as having a profit equal to the difference between the price of the original short sale and the closing price of Sigma stock the trade day after the Class Period.

162. Besides selling shares of Sigma stock previously purchased, and engaging in short sales of Sigma stock, the Funds profited by selling call options and buying put options on Sigma stock during the Buyer Class Period. Because the call options expired “out of the money” and therefore worthless, the premium received by the Funds for their sale of those call options was a profit gained by Defendants from allegedly trading with material nonpublic information. On the other hand, the put options were in the money on 20 March 2008, and the Funds exercised the options, delivering shares of Sigma stock previously purchased. I computed the profits from these options trades as the difference between the put option strike price of \$30.00 and the market closing price of \$22.11 for Sigma stock on the exercise date (the amount by which the puts were in the money), times the number of shares delivered, to which I added the proceeds of the call option sale and subtracted the cost of the put options purchase.³⁶

Sonar Profits and Avoided Losses

163. The trading records do not specify the matching of purchases and sales, and consequently the profits generated from specific opening transactions. Accordingly, it is necessary to make assumptions about the procedure for matching purchases and sales of shares. The most commonly used algorithms for trade matching are “Last In First Out” (“LIFO”) and “First In First Out” (“FIFO”). In the LIFO algorithm, when shares are sold they are taken from the inventory of the most recently purchased shares that are still available (i.e., unsold). Relative to other choices, this tends to shorten the time between stock purchase and sale for most cases. In the FIFO algorithm, when shares are sold they are taken from the inventory of the shares purchased the earliest of those still available (i.e., unsold). This procedure can lead to longer times between purchase and sale.

³⁶ These options transactions occurred on 26 February 2008.

164. I considered both LIFO and FIFO trade matching rules in calculating trading profits for shares purchased by Defendants during the Seller Class Period, and for shares sold short during the Buyer Class Period. The details of the LIFO and FIFO trade matches for the Sonar Funds, in both their long and short accounts, are detailed in Exhibit-8 and Exhibit-9, respectively. Losses avoided were calculated as described in paragraph 160 above, which required no assumption of either LIFO or FIFO trade matching. The details of the losses avoided by Sonar Funds' sales during the Buyer Class Period are detailed in Exhibit 10.
165. The results for Funds' profits and avoided losses for alleged insider trades during the Class Periods are summarized in Table-4.

Table-4. Sonar Profits and Avoided Losses by Class Period and Fund

Panel A – LIFO Trade Matching Profits

Class Period Fund	Profits on Positions Traded	Imputed Profits on Positions Retained	Total Profits
Class Period S-1			
Overseas	\$ 1,284,989	\$ 432,628	\$ 1,717,617
Partners	\$ 1,211,186	\$ -	\$ 1,211,186
Institutional	\$ 408,313	\$ 196,631	\$ 604,944
Total Class Period S-1	\$ 2,904,488	\$ 629,258	\$ 3,533,746
Class Period S-2			
Overseas	\$ 4,326,605	\$ -	\$ 4,326,605
Partners	\$ 2,671,509	\$ -	\$ 2,671,509
Institutional	\$ 1,528,660	\$ -	\$ 1,528,660
Total Class Period S-2	\$ 8,526,774	\$ -	\$ 8,526,774
Class Period B			
Overseas	\$ 513,726	\$ 1,502,134	\$ 2,015,860
Partners	\$ 380,123	\$ 1,113,642	\$ 1,493,765
Institutional	\$ 171,753	\$ 501,726	\$ 673,479
Total Class Period B	\$ 1,065,602	\$ 3,117,502	\$ 4,183,104
All Class Periods			
Overseas	\$ 6,125,319	\$ 1,934,762	\$ 8,060,081
Partners	\$ 4,262,819	\$ 1,113,642	\$ 5,376,461
Institutional	\$ 2,108,726	\$ 698,357	\$ 2,807,083
Total All Class Periods	\$ 12,496,864	\$ 3,746,760	\$ 16,243,624

Panel B – FIFO Trade Matching Profits

Class Period	Imputed Profits			
Fund	Profits on	on Positions	Total Profits	
	Positions Traded	Retained		
Class Period S-1				
Overseas	\$ 7,832,386	\$ -	\$	7,832,386
Partners	\$ 3,447,622	\$ -	\$	3,447,622
Institutional	\$ 2,198,235	\$ -	\$	2,198,235
Total Class Period S-1	\$ 13,478,243	\$ -	\$	13,478,243
Class Period S-2				
Overseas	\$ (1,837,011)	\$ 3,428,079	\$	1,591,067
Partners	\$ (1,452,858)	\$ 636,359	\$	(816,499)
Institutional	\$ (464,809)	\$ 1,716,361	\$	1,251,552
Total Class Period S-2	\$ (3,754,678)	\$ 5,780,799	\$	2,026,120
Class Period B				
Overseas	\$ -	\$ 3,219,038	\$	3,219,038
Partners	\$ -	\$ 2,385,003	\$	2,385,003
Institutional	\$ -	\$ 1,075,387	\$	1,075,387
Total Class Period B	\$ -	\$ 6,679,427	\$	6,679,427
All Class Periods				
Overseas	\$ 5,995,375	\$ 6,647,117	\$	12,642,492
Partners	\$ 1,994,764	\$ 3,021,361	\$	5,016,125
Institutional	\$ 1,733,426	\$ 2,791,748	\$	4,525,173
Total All Class Periods	\$ 9,723,564	\$ 12,460,226	\$	22,183,790

Panel C – Losses Avoided On Shares Sold and Options Trade Profits During Buyer Class Period

Fund	Losses	Options Trade
	Avoided	Profits
Overseas	\$ 12,591,466	\$ 774,740
Partners	\$ 9,166,888	\$ 573,531
Institutional	\$ 4,263,814	\$ 258,820
Total	\$ 26,022,169	\$ 1,607,090

Panel D – Total Profits and Losses Avoided

Fund	LIFO Matching	FIFO Matching
Overseas	\$ 21,426,287	\$ 26,008,698
Partners	\$ 15,116,880	\$ 14,756,544
Institutional	\$ 7,329,717	\$ 9,047,807
Total	\$ 43,872,883	\$ 49,813,049

CONCLUSION

166. Market participants who purchased stock when Defendants allegedly were selling on inside information overpaid relative to what they would have paid had the inside information been disclosed. Market participants who sold stock when Defendants allegedly were buying on inside information were underpaid relative to what they would have received had the inside information been disclosed. Aggregate damages were computed by multiplying the number of shares market participants bought by the amount they overpaid per share, plus the number of shares market participants sold by the amount they were underpaid per share.
167. Market participants who traded contemporaneously with Defendants were damaged as a consequence of Defendants' alleged insider trading. The amount of damages ranges from \$1.41 billion to \$2.97 billion, depending on the definition of the contemporaneous period relative to Defendants' trades.
168. Profits earned and losses avoided by the Defendants from allegedly trading on the inside information amount to \$43.9 million when trades are matched according to the Last In First Out ("LIFO") algorithm, and amount to \$49.8 million when the First In First Out ("FIFO") matching algorithm is used.

LIMITING FACTORS AND OTHER ASSUMPTIONS

169. This declaration is furnished solely for the purpose of court proceedings in the above referenced matter and may not be used or referred to for any other purpose. The analysis and opinions contained in this report are based on information available as of the date of this report. I reserve the right to supplement or amend this report, including in the event additional information becomes available.



Steven P. Feinstein, Ph.D., CFA

APPENDIX: LOGARITHMIC RETURNS

Logarithmic returns, rather than percent change returns are commonly used in stock return regressions and event study analysis and were used in the regression modeling here. The formula for a logarithmic return is:

$$R_t = \ln \left(\frac{P_t + d_t}{P_{t-1}} \right)$$

where:

R_t is the logarithmic return on day t ;

P_t is the stock price at the end of day t ;

P_{t-1} is the stock price from the previous day, day $t-1$;

d_t is the dividend on day t , if any.

The formula for converting a logarithmic return into a dollar return is:

$$DR_t = P_{t-1} \cdot (e^{R_t} - 1)$$

where:

DR_t is the dollar return on day t ;

P_{t-1} is the stock price from the previous day, day $t-1$;

e is natural e (approximately 2.7);

R_t is the logarithmic return on day t .

If a stock falls from \$20 to \$18, the percent change in price is -10%, equal to the \$2 decline divided by the original \$20 price. The logarithmic return, however, is -10.54%, equal to $\ln(\$18/\$20)$.

The logarithmic return relates a price change to an average of the original, final, and intervening prices over the course of a price decline. As such, for large price declines, it is possible for a logarithmic price decline to exceed 100%, since the price decline may be greater than the average of the beginning and ending prices.

An attractive feature of a logarithmic return is that it can be decomposed into contributing factors linearly. That is, the portion of a logarithmic return caused by company-specific information is isolated by subtracting from the total logarithmic return the portion of the total return caused by market and peer group factors.

Exhibit-1

Documents and Other Information Reviewed and Relied Upon

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- Lead Plaintiffs' Third Amended Class Action Complaint, dated 30 December 2014.

NEWS ARTICLES / PRESS RELEASES

- Factiva news articles (417) from 1 January 2006 to 31 December 2008, downloaded using the following search parameters: Sources Field: The Wall Street Journal, Reuters Newswires, Dow Jones Newswires, Major News and Business Publications, Press Release Wires – All Sources; Company: Sigma Designs, Inc.; All Subjects; All Industries; All Regions.
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- Sigma Designs Inc. Form 8-K, filed 10 January 2007.
- Sigma Designs Inc. Form 8-KA, filed 18 January 2007.
- Sigma Designs Inc. Form 8-K, filed 9 February 2007.
- Sigma Designs Inc. Form 8-K, filed 1 March 2007.
- Sigma Designs Inc. Form 8-K, filed 21 March 2007.
- Sigma Designs Inc. Form 10-K for the Fiscal Year Ended 3 February 2007, filed 20 April 2007.
- Sigma Designs Inc. Form 10-Q for the Quarter Ended 29 July 2006, filed 20 April 2007.
- Sigma Designs Inc. Form 10-Q for the Quarter Ended 28 October 2006, filed 20 April 2007.
- Sigma Designs Inc. Form 8-K, filed 24 April 2007.
- Sigma Designs Inc. Form 8-K, filed 27 April 2007.
- Sigma Designs Inc. Form 8-K, filed 18 May 2007.
- Sigma Designs Inc. Form 8-K, filed 21 May 2007.
- Sigma Designs Inc. Form DEF 14A, filed 1 June 2007.
- Sigma Designs Inc. Form 8-K, filed 4 June 2007.
- Sigma Designs Inc. Form 10-Q for the Quarter Ended 5 May 2007, filed 14 June 2007.
- Sigma Designs Inc. Form 8-K, filed 18 June 2007.
- Sigma Designs Inc. Form S-8, filed 29 June 2007.
- Sigma Designs Inc. Form S-1, filed 10 August 2007.
- Sigma Designs Inc. Form 8-K, filed 29 August 2007.
- Sigma Designs Inc. Form 10-Q for the Quarter Ended 4 August 2007, filed 13 September 2007.
- Sigma Designs Inc. Form S-1A, filed 14 September 2007.
- Sigma Designs Inc. Form 424B4, filed 27 September 2007.
- Sigma Designs Inc. Form 8-K, filed 28 November 2007.
- Sigma Designs Inc. Form PRE 14A, filed 6 December 2007.
- Sigma Designs Inc. Form 10-Q for the Quarter Ended 3 November 2007, filed 13 December 2007.
- Sigma Designs Inc. Form DEF 14A, filed 19 December 2007.
- Sigma Designs Inc. Form 8-K, filed 29 February 2008.
- Sigma Designs Inc. Form S-8, filed 11 March 2008.
- Sigma Designs Inc. Form 8-K, filed 12 March 2008.
- Sigma Designs Inc. Form 8-K, filed 20 March 2008.
- Sigma Designs Inc. Form 8-K, filed 29 May 2008.
- Sigma Designs Inc. Form 10-K for the Fiscal Year Ended 2 February 2008, filed 2 April 2008.
- Sigma Designs Inc. Form DEF 14A, filed 29 May 2008.

Exhibit-1**Documents and Other Information Reviewed and Relied Upon**

- Sigma Designs Inc. Form 10-Q for the Quarter Ended 3 May 2008, filed 12 June 2008.
- Sigma Designs Inc. Form 8-K, filed 27 June 2008.
- Sigma Designs Inc. Form 8-K, filed 14 August 2008.
- Sigma Designs Inc. Form 8-K, filed 28 August 2008.
- Sigma Designs Inc. Form 10-Q for the Quarter Ended 2 August 2008, filed 11 September 2008.
- Sigma Designs Inc. Form 8-K, filed 18 November 2008.
- Sigma Designs Inc. Form 8-K, filed 2 December 2008.
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CONFERENCE CALL TRANSCRIPTS

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- “Q1 2007 Sigma Designs Earnings Conference Call”, *Thomson StreetEvents*, 31 May 2006.
- “Q2 2007 Sigma Designs Earnings Conference Call”, *Thomson StreetEvents*, 29 August 2006.
- “Q3 2007 Sigma Designs Earnings Conference Call”, *Thomson StreetEvents*, 28 November 2006.
- “Q4 2007 Sigma Designs Earnings Conference Call”, *Thomson StreetEvents*, 21 March 2007.
- “Sigma Designs Conference Call”, *Thomson StreetEvents*, 24 April 2007.
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Exhibit-1

Documents and Other Information Reviewed and Relied Upon

- “Q2 2008 Sigma Designs Earnings Conference Call”, *Thomson StreetEvents*, 29 August 2007.
- “Q3 2008 Sigma Designs Earnings Conference Call”, *Thomson StreetEvents*, 28 November 2007.
- “Q4 2008 Sigma Designs Earnings Conference Call”, *Thomson StreetEvents*, 12 March 2008.
- “Q1 2009 Sigma Designs Earnings Conference Call”, *Thomson StreetEvents*, 29 May 2008.
- “Q2 2009 Sigma Designs Earnings Conference Call”, *Thomson StreetEvents*, 28 August 2008.
- “Q3 2009 Sigma Designs Earnings Conference Call”, *Thomson StreetEvents*, 2 December 2008.

DATA AND DATABASES

- Bloomberg
- Capital IQ
- CRSP (Center for Research in Security Prices)
- Factiva
- Thomson Research

LEGAL CASES

- *Basic, Inc. v. Levinson*, 485 U.S. (1988).
- *Cammer v. Bloom*, 711 F. Supp. 1264 (N.J., 1989).
- *Halliburton Co. Et Al. v. Erica P. John Fund, Inc., FKA Archdiocese of Milwaukee Supporting Fund, Inc.*, 573 U. S. 10 (2014).
- *Krogman v. Sterritt*, 202 F.R.D. 467 (N.D.Tex. 2001)
- *Unger v. Amedisys*, 401 F.3d 316 (5th Cir. 2005)
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OTHER

- “Float Adjustment Methodology,” *S&P Dow Jones Indices*, July 2012.
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- “Form 8-K,” *U.S. Securities and Exchange Commission*, at <http://www.sec.gov/answers/form8k.htm>.
- “Nasdaq To Enable Customers To Trade NYSE Stocks,” *Reuters*, 28 March 2005.
- The Nasdaq Stock Market, Inc., Form 10-K for the Fiscal Year Ended 31 December 2006, filed 28 February 2007.

Exhibit-1

Documents and Other Information Reviewed and Relied Upon

- 15 USC § 78t-1
- Gordon 001363 – Excel.
- Transaction records provided by Plaintiffs' Counsel.
- Any other documents and data cited in the report.

Exhibit-2
Curriculum Vitae
Steven P. Feinstein, Ph.D., CFA

Babson College
Finance Division
Babson Park, MA 02457
781-239-5275
Feinstein@Babson.edu

EDUCATION

- 1989 YALE UNIVERSITY
Ph.D. in Economics (Concentration in Finance)
- 1986 YALE UNIVERSITY
M.Phil. in Economics
- 1983 YALE UNIVERSITY
M.A. in Economics
- 1981 POMONA COLLEGE
B.A. in Economics (Phi Beta Kappa, *cum laude*)

TEACHING EXPERIENCE

- 1996 - present BABSON COLLEGE
Babson Park, MA
Full-time Faculty, Finance Division
Associate Professor (2000-present)
Donald P. Babson Chair in Applied Investments (2002-2010)
Faculty Director of the Babson College Fund (2002-2009)
Director of the Stephen D. Cutler Investment Management Center
(2002-2007)
Assistant Professor (1996-2000)
- 1990 - 1995 BOSTON UNIVERSITY SCHOOL OF MANAGEMENT
Boston, MA
Full-time Faculty, Department of Finance
- 1993 - 1994 WASHINGTON UNIVERSITY, OLIN SCHOOL OF BUSINESS
St. Louis, MO
Visiting Assistant Professor, Department of Finance

Exhibit-2
Curriculum Vitae
Steven P. Feinstein, Ph.D., CFA

BUSINESS EXPERIENCE

2008 - present	CROWNINSHIELD FINANCIAL RESEARCH, INC. Wellesley, MA President and Senior Expert
1996 - 2008	THE MICHEL-SHAKED GROUP Boston, MA Senior Expert (2001 - 2008) Affiliated Expert (1996 - 2001)
1987 - 1990	FEDERAL RESERVE BANK OF ATLANTA Economist

PROFESSIONAL DESIGNATIONS

1998 Awarded the Chartered Financial Analyst designation by the Association for Investment Management and Research.

RESEARCH AWARDS

1999 Greater Boston Real Estate Board/Real Estate Finance Association – Research Grant and Featured Speaker at Real Estate Finance Association Meetings.

PAPERS AND PUBLICATIONS

“Underestimation of Securities Fraud Aggregate Damages Due to Inter-Fund Trades.” (with Gang Hu, Mark Marcus, and Zann Ali) *Journal of Forensic Economics*, September 2013, Vol. 24, No. 2, 161-173.

“Lehman Equity Research Tipping: Evidence in the Stock Price Data,” Working paper, March 2010. Cited in *New York Times* May 19, 2012, and made available on the *New York Times* website.

“Distortion in Corporate Valuation: Implications of Capital Structure Changes” (with Allen Michel and Jacob Oded) *Managerial Finance*, 2011, Vol. 37(8), 681-696.

“Market Signals of Investment Unsuitability” (with Alexander Liss and Steven Achatz) Law360.com, June 3, 2010. Available from <http://www.law360.com/articles/170690>.

Exhibit-2
Curriculum Vitae
Steven P. Feinstein, Ph.D., CFA

“Planning Capital Expenditure,” in *The Portable MBA in Financing and Accounting*, J. L. Livingstone and T. Grossman, editors, New York: Wiley, 3rd edition 2001, and 4th edition 2009.

“Financial Management of Risks,” in *The Portable MBA in Financing and Accounting*, J. L. Livingstone and T. Grossman, editors, New York: Wiley, 2nd edition 1997, 3rd edition 2001, and 4th edition 2009.

“Fraud-on-the-Market Theory: Is a Market Efficient?” (with Allen Michel and Israel Shaked) *American Bankruptcy Institute Journal*, May 2005.

“Valuation of Credit Guarantees” (with Allen J. Michel and Israel Shaked). *Journal of Forensic Economics* 17(1), pp. 17-37, 2005.

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“Teaching the Strong-Form Efficient Market Hypothesis: A Classroom Experiment,” *Journal of Financial Education*, fall 2000.

A Future for Real Estate Futures: Potential Applications of Derivatives in Real Estate Investment and Finance (with Linda Stoller). Monograph. Boston: Real Estate Finance Association / Greater Boston Real Estate Board, May 2000.

“The Risk Budget: Using Your Human Resources,” (with John Marthinsen and John Edmunds) *Risk Management*, April 2000.

“Scenario Learning: A Powerful Tool for the 21st Century Planner,” (with Jeffrey Ellis and Dennis Stearns) *The Journal of Financial Planning*, April 2000.

“Protecting Future Product Liability Claimants in the Case of Bankruptcy,” (with Allen Michel and Israel Shaked) *American Bankruptcy Institute Journal*, January 2000.

“Measuring Risk with the Bodie Put When Stocks Exhibit Mean Reversion,” *The Journal of Risk*, Vol. 1, No. 3, 1999.

“Just-in-Time Mathematics: Integrating the Teaching of Finance Theory and Mathematics,” (with Gordon Prichett) *Primus*, Vol. IX, No. 2, June 1999.

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“Dealing with Delta,” *Derivatives Week*, VII, No. 44, November 2, 1998.

Exhibit-2
Curriculum Vitae
Steven P. Feinstein, Ph.D., CFA

“Expected Return in Option Pricing: A Non-Mathematical Explanation,” *Derivatives Week*, VII, No. 35, August 31, 1998.

“When Hedges Fail: The Put Paradox and its Solution,” *Derivatives Quarterly*, Vol. 4, No. 2, Winter 1997.

Finance and Accounting for Project Management. New York: American Management Association, 1996.

“International Investing,” in *Irwin’s Directory of Emerging Market Brokerages*. New York: Irwin, 1996.

“The Hull and White Implied Volatility.” Boston University Working Paper #92-51, 1992.

“Immunizing Against Interest Rate Risk Using the Macaulay Duration Statistic: An Assessment,” (with Don Smith) in *Financial Systems and Risk Management*, the proceedings of the US-Japan Forum on Financial Strategy in the 1990s, sponsored by Osaka Foundation of International Exchange and Boston University, August 1991.

“Covered Call Options: A Proposal to Ease LDC Debt,” (with Peter Abken) *Federal Reserve Bank of Atlanta Economic Review*, March/April 1990. Reprinted in *Financial Derivatives: New Instruments and Their Uses*. Atlanta: Federal Reserve Bank.

“Forecasting Stock-Market Volatility Using Options on Index Futures,” *Federal Reserve Bank of Atlanta Economic Review*, May/June 1989. Reprinted in *Financial Derivatives: New Instruments and Their Uses*. Atlanta: Federal Reserve Bank.

“The Black-Scholes Formula is Nearly Linear in Sigma for At-the-Money Options; Therefore Implied Volatilities from At-the-Money Options are Virtually Unbiased.” Federal Reserve Bank of Atlanta Working Paper #88-9, December 1988.

“The Effect of the ‘Triple Witching Hour’ on Stock Market Volatility,” (with William Goetzmann) *Federal Reserve Bank of Atlanta Economic Review*, September/October 1988. Reprinted in *Financial Derivatives: New Instruments and Their Uses*. Atlanta: Federal Reserve Bank.

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Book review of *In Who’s Interest: International Banking and American Foreign Policy*, by Benjamin J. Cohen, Yale University Press, in *Federal Reserve Bank Of Atlanta Economic Review*, Summer 1987.

Exhibit-2
Curriculum Vitae
Steven P. Feinstein, Ph.D., CFA

PRESENTATIONS

“Determining the Defendant's Ability to Pay,” at Taxpayers Against Fraud Education Fund Conference, October 2010.

“The Computation of Damages in Securities Fraud Cases,” at the Grant and Eisenhower Institutional Investor Conference, December 2002.

“The Role of the Financial Expert in Complex Litigation,” at the Financial Management Association Conference, October 2000.

“Entrepreneurial Incentives and Resource Allocation Among Corporate Venturing Initiatives,” (with Joel Shulman and U. Srinivasa Rangan), Babson Entrepreneurship Research Conference, May 2000.

“Application of Real Options in Purchasing Strategies,” (with Juan Orozco), presented at the International Applied Business Research Conference, March 2000.

“A Future for Real Estate Futures,” (with Linda Stoller) at the Fairfield County chapter of the Real Estate Finance Association, November 1999, and at the Greater Boston Real Estate Board, November 2000.

“Atlanta Park Medical Center v. Hamlin Asset Management,” (with Natalie Taylor) at the 1999 convention of the North American Case Research Association.

“Using Future Worlds™ in the Financial Planning Process,” (with Jeffrey Ellis) at the Institute of Certified Financial Planners Masters Retreat, October 1999.

“Toward a Better Understanding of Real Options: A Weighted Average Discount Rate Approach,” at the 1999 Financial Management Association Conference, the 1999 European Financial Management Association Conference, and the 1999 Multinational Finance Society Conference.

“Just-In-Time Mathematics: Integrating the Teaching of Finance Theory and Mathematics,” (with Gordon Prichett) at the 1999 Financial Management Association Conference.

“Alternative Dow Investments for the Individual Investor: Diamonds, Synthetics, and the Real Thing,” at the 1999 Academy of Financial Services Convention.

“Evidence of Yield Burning in Municipal Refundings” at Financial Management Association Convention, October 1997; Government Finance Officers Association, 1997; and Northeast Regional Convention of the National Association of State Treasurers, 1997.

Exhibit-2
Curriculum Vitae
Steven P. Feinstein, Ph.D., CFA

“Teaching the Strong-Form Efficient Market Hypothesis” at Conference on Classroom Experiments in the Teaching of Economics at University of Virginia, September 1995.

“Efficient Consolidation of Implied Standard Deviations,” (with Shaikh Hamid) at Midwest Finance Association, March 1995.

“A Test of Intertemporal Averaging of Implied Volatilities,” (with Shaikh Hamid) at Eastern Finance Association, April 1995.

“Taking Advantage of Volatility: Non-linear Forecasting and Options Strategies,” (with Hassan Ahmed) at Chicago Board of Trade / Chicago Board Options Exchange Conference on Risk Management, February 1992.

“Immunizing Against Interest Rate Risk Using the Macaulay Duration Statistic: An Assessment,” (with Don Smith) at Japan-U.S. Conference on Financial Strategies in the 1990s, Osaka, Japan, August 1991.

“The Hull and White Implied Volatility,” at American Finance Association Convention, December 1990.

REVIEWED ARTICLES AND BOOKS FOR:

Harvard Business School Publishing
Elsevier
Journal of Economic Education
Journal of Forensic Economics
Journal of Risk
Financial Review
North American Case Research Association
Financial Management
Journal of Business
Journal of Money, Credit and Banking
Quarterly Review of Economics and Finance
Blackwell
Prentice Hall
Southwestern Publishing

Exhibit-2
Curriculum Vitae
Steven P. Feinstein, Ph.D., CFA

COURSES TAUGHT

Capital Markets
Mod B: Decision Making and Applications, Finance stream (MBA)
Financial Reporting and Corporate Finance (MBA)
Valuation (MBA)
Investments (MBA and Executive)
Equity Markets (MBA)
Fixed Income Analysis (Undergraduate and MBA)
Babson College Fund (Undergraduate and MBA)
Options and Futures (Undergraduate)
Advanced Derivative Securities (MBA)
Corporate Finance (MBA and Executive)
Financial Management (MBA)
Risk Management (MBA)
Corporate Financial Strategy (MBA)
Integrated Management (Undergraduate)
Cross-Functional Management (Integrated curriculum, Undergraduate)
Continuous-Time Finance (Doctoral)
Portfolio Theory / Management Information Systems (Executive)
Quantitative Methods for Investment Management (Undergraduate and MBA)
Introduction to Derivative Securities (Executive)
International Finance (Executive)

TEACHING AWARDS

Reid Teaching Award, Washington University, Olin School of Business, 1993-94.

SELECT LIST OF MEDIA CITATIONS

“Is Insider Trading Part of the Fabric?” by Gretchen Morgenson, *The New York Times*, May 19, 2012.

“Bankers Rigging Municipal Contract Bids Admit to Cover-Up Lies,” by William Selway and Martin Z. Braun, *Bloomberg Markets Magazine*, November 24, 2010.

“Hospital Move Presents Buy-Out Groups with New Risks,” by Francesco Guerra, Christopher Bowe, and Rebecca Knight, *Financial Times*, July 15, 2006.

“Funds of Knowledge Add Value,” by Rebecca Knight, *Financial Times*, March 12, 2006.

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Curriculum Vitae
Steven P. Feinstein, Ph.D., CFA

“City’s Financial Picture Worse Than Ever, Sanders Says,” by Matthew T. Hall, *San Diego Union-Tribune*, January 7, 2006.

“Downer: Stock Market Takes Another Dive,” by John Chesto, *Boston Herald*, July 23, 2002.

“Banks, Developers, Are Main Beneficiaries,” [editorial column] by Steven Feinstein, *The Boston Globe*, March 31, 2002, p. C4.

“Washington Investing: What Michael Saylor is Really Worth,” by Jerry Knight, *The Washington Post*, March 6, 2000.

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“L.A. MTA’s Law Firm Says Lissack Strategy Will be a Replay,” by Andrea Figler, *Bond Buyer*, September 30, 1998.

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“Top Banks Plan Bailout for Fund,” by Andrew Fraser, Associated Press, September 24, 1998.

“Clarion Call to the Small Investor,” by Jo-Ann Johnston, *The Boston Globe*, March 4, 1998.

“L.A. Authority Study Shows Rampant Yield Burning Abuse,” by Michael Stanton, *The Bond Buyer*, April 22, 1997.

“Dispute Over Yield Burning Dominates GFOA Session,” by Michael Stanton, *The Bond Buyer*, January 29, 1997.

“Men Behaving Badly (Yield Burning),” *Grants Municipal Bond Observer*, January 24, 1997.

“Municipal Bond Dealers Face Scrutiny,” by Peter Truell, *The New York Times*, December 17, 1996.

“Iowa Market Takes Stock of Presidential Candidates,” by Stanley W. Angrist, *The Wall Street Journal*, August 28, 1995.

“Looking for Clues in Options Prices,” by Sylvia Nasar, *The New York Times*, July 18, 1991.

Exhibit-2
Curriculum Vitae
Steven P. Feinstein, Ph.D., CFA

“For Fed, A New Set of Tea Leaves,” by Sylvia Nasar, *The New York Times*, July 5, 1991.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

American Finance Association
Boston Security Analysts Society
Chartered Financial Analyst Institute
Financial Management Association
Foundation for Advancement of Research in Financial Economics (founding member)
National Association of Forensic Economics
North American Case Research Association

Exhibit-3
Steven P. Feinstein, Ph.D., CFA
Testimony in the Last Four Years

The Board of Trustees of the Southern California IBEW-NECA Defined Contribution Plan, vs.
The Bank of New York Mellon Corporation and BNY Mellon, National Association.
United States District Court
Southern District of New York
Civil Action No. 1:09-cv-06273-RMB-AJP
Deposition Testimony
March 2011 and May 2011

In Re Merck & Co., Inc. Securities, Derivative & “ERISA” Litigation
United States District Court
District of New Jersey
Civil Action No. 05-2369(SRC)
Deposition Testimony
May 2011

In Re Constar International Inc. Securities Litigation
United States District Court
Eastern District of Pennsylvania
Civil Action No. 2:03-cv-05020-EL
Deposition Testimony
June 2011

Alaska Electrical Pension Fund, *et al.*, vs. Pharmacia Corporation, *et al.*
United States District Court
District of New Jersey
Civil Action No. 3:09-1519 (AET)
Deposition Testimony
October 2011

Mary K. Jones, *et al.*, vs. Pfizer Inc., *et al.*
United States District Court
Southern District of New York
Civil Action no. 10-CV-03864-AKH
Deposition Testimony
January 2012

State of New Jersey, Department of Treasury, Division of Investment on behalf of Common
Pension Fund A, vs. Merrill Lynch & Co., and Bank of America Corporation
Docket No. L-3855-09
Superior Court of New Jersey
Law Division
Hudson County
Deposition Testimony
June 2012

Exhibit-3
Steven P. Feinstein, Ph.D., CFA
Testimony in the Last Four Years

Jan Buetting, *et al.* vs. Katherine J. Harless, *et al.*
United States District Court
Northern District of Texas
Dallas Division
Civil Action No. 3:09-cv-00791-K
Deposition Testimony
December 2010 and August 2012

DJ Mortgage, LLC, and John F. Smithgall vs. Synovus Bank d/b/a Bank of North Georgia
Superior Court for the County of Fulton
State of Georgia
Civil Action no. 11-cv-205000
Deposition Testimony
September 2012

Carlos Munoz, *et al.* vs. China Expert Technology, Inc.; PKF New York, Certified Public Accountants, A Professional Corporation; PKF Hong Kong, Certified Public Accountants; And BDO McCade Lo Limited Certified Public Accountants
United States District Court
Southern District of New York
Civil Action no. 07-cv-10531 (AKH)
Deposition Testimony
March 2013

In Re American International Group, Inc. 2008 Securities Litigation
United States District Court
Southern District of New York
Civil Action no. 08-CV-4772-LTS
Deposition Testimony
July 2011 and February 2012
Testimony at Evidentiary Hearing
April 2013 and May 2013

Christopher Cohan, *et al.*, vs. KPMG LLP
Court of Fulton County
State of Georgia
Civil Action no. 12EV0114325G
June 2013

Exhibit-3
Steven P. Feinstein, Ph.D., CFA
Testimony in the Last Four Years

Landmen Partners Inc. *et al.* vs. The Blackstone Group L.P., *et al.*
United States District Court
Southern District of New York
Civil Action no. 08-cv-03601-HB
Deposition Testimony
May 2013 and August 2013

Louis Pagnotti, Inc. *et al.*, vs. Deloitte & Touche, LLP,
In the Court of Common Pleas of Luzerne County
Case No. 557 C of 2003
Deposition Testimony
October 2013

In Re IndyMac Mortgage-Backed Securities Litigation
Civil Action No. 1:09-cv-04583-LAK
United States District Court
Southern District of New York
Deposition Testimony
January 2011 and October 2013

In Re Walter Energy, Inc. Securities Litigation
Civil Action No. 2:12-cv-00281-VEH
United States District Court
Northern District of Alabama
Deposition Testimony
January 2014

Anwar, *et al.*, v. Fairfield Greenwich Limited, *et al.*
Civil Action No. 09-cv-0118 (VM)
United States District Court
Southern District of New York
Deposition Testimony
February 2014

In Re Symbol Technologies, Inc. Securities Litigation
Civil Action No. 05-cv-3923-DRH
United States District Court
Eastern District of New York
Deposition Testimony
June 2014

Exhibit-3
Steven P. Feinstein, Ph.D., CFA
Testimony in the Last Four Years

In Re Groupon, Inc. Securities Litigation
Civil Action No. 12-cv-2450
United States District Court
Northern District of Illinois
Deposition Testimony
February 2014
Testimony at Evidentiary Hearing
September 2014

Mary K. Jones, *et al.*, vs. Pfizer Inc., *et al.*
United States District Court
Southern District of New York
Civil Action no. 10-cv-03864-AKH
Deposition Testimony
January 2012 and October 2014

In Re Questcor Pharmaceuticals, Inc. Securities Litigation
Civil Action No. 12-cv-01623-DMG
United States District Court
Central District of California
Deposition Testimony
October 2014

In Re Baxter International Inc., Securities Litigation
Civil Action No. 1:10-cv-06016
United States District Court
Northern District of Illinois
Eastern Division
Deposition Testimony
November 2014

In Re Longtop Financial Technologies, Ltd. Securities Litigation
Civil Action No. 11-cv-3658-SAS
United States District Court
Southern District of New York
Trial Testimony
November 2014

In Re Delcath Systems, Inc. Securities Litigation
Civil Action No. 13 Civ. 3116 (LGS)
United States District Court
Southern District of New York
Deposition Testimony
December 2014

Exhibit-3
Steven P. Feinstein, Ph.D., CFA
Testimony in the Last Four Years

In Re Prudential Financial, Inc. Securities Litigation
Civil Action No. 2:12-cv-05275-SDW-MCA
United States District Court
District of New Jersey
Deposition Testimony
January 2015

Exhibit-4**Sigma Designs, Inc. (Sigma) Stock Prices, Volume and Returns**

12 July 2007 through 13 March 2008

Date	Sigma Closing Price	Sigma Closing Bid	Sigma Closing Ask	Sigma Trading Volume	Sigma Logarithmic Return
7/12/2007	\$28.52	\$28.50	\$28.52	1,132,956	
7/13/2007	\$30.85	\$30.81	\$30.84	2,864,434	7.85%
7/16/2007	\$30.57	\$30.51	\$30.55	1,887,408	-0.91%
7/17/2007	\$32.44	\$32.41	\$32.46	2,488,781	5.94%
7/18/2007	\$32.13	\$32.14	\$32.16	1,199,205	-0.96%
7/19/2007	\$31.95	\$31.90	\$31.93	747,863	-0.56%
7/20/2007	\$31.37	\$31.32	\$31.37	741,379	-1.83%
7/23/2007	\$31.16	\$31.16	\$31.18	677,933	-0.67%
7/24/2007	\$30.32	\$30.31	\$30.33	1,252,714	-2.73%
7/25/2007	\$31.02	\$30.99	\$31.02	858,021	2.28%
7/26/2007	\$30.27	\$30.24	\$30.27	1,140,227	-2.45%
7/27/2007	\$31.19	\$31.14	\$31.19	1,533,562	2.99%
7/30/2007	\$32.78	\$32.76	\$32.78	1,524,849	4.97%
7/31/2007	\$31.80	\$31.80	\$31.81	1,456,844	-3.04%
8/1/2007	\$32.48	\$32.47	\$32.54	1,409,840	2.12%
8/2/2007	\$33.51	\$33.47	\$32.63	995,491	3.12%
8/3/2007	\$31.57	\$31.55	\$31.57	1,288,193	-5.96%
8/6/2007	\$31.23	\$31.23	\$31.27	1,525,743	-1.08%
8/7/2007	\$32.19	\$32.15	\$32.16	1,180,196	3.03%
8/8/2007	\$34.30	\$34.30	\$34.34	2,010,641	6.35%
8/9/2007	\$34.83	\$34.73	\$34.80	1,803,649	1.53%
8/10/2007	\$32.76	\$32.77	\$32.81	1,671,456	-6.13%
8/13/2007	\$33.11	\$33.12	\$33.12	1,617,408	1.06%
8/14/2007	\$32.04	\$31.99	\$32.05	1,080,595	-3.29%
8/15/2007	\$30.89	\$30.86	\$30.89	977,280	-3.66%
8/16/2007	\$31.56	\$31.51	\$31.52	1,512,637	2.15%
8/17/2007	\$32.45	\$32.42	\$32.45	705,524	2.78%
8/20/2007	\$33.15	\$33.13	\$33.14	511,106	2.13%
8/21/2007	\$35.40	\$35.34	\$35.40	1,737,634	6.57%
8/22/2007	\$36.42	\$36.35	\$36.40	1,600,380	2.84%
8/23/2007	\$35.69	\$35.68	\$35.69	1,257,173	-2.02%
8/24/2007	\$36.61	\$36.60	\$36.61	753,880	2.55%
8/27/2007	\$36.91	\$36.90	\$36.91	572,437	0.82%
8/28/2007	\$37.25	\$37.18	\$37.20	2,423,685	0.92%
8/29/2007	\$38.63	\$38.62	\$38.65	3,483,091	3.64%

Exhibit-4**Sigma Designs, Inc. (Sigma) Stock Prices, Volume and Returns**

12 July 2007 through 13 March 2008

Date	Sigma Closing Price	Sigma Closing Bid	Sigma Closing Ask	Sigma Trading Volume	Sigma Logarithmic Return
8/30/2007	\$42.70	\$42.64	\$42.68	10,573,443	10.02%
8/31/2007	\$42.31	\$42.28	\$42.30	1,935,887	-0.92%
9/4/2007	\$43.72	\$43.71	\$43.72	1,480,366	3.28%
9/5/2007	\$41.33	\$41.35	\$41.36	1,623,861	-5.62%
9/6/2007	\$41.39	\$41.35	\$41.39	797,352	0.15%
9/7/2007	\$39.96	\$39.95	\$39.96	1,390,605	-3.52%
9/10/2007	\$40.38	\$40.33	\$40.39	1,176,242	1.05%
9/11/2007	\$42.55	\$42.52	\$42.56	1,032,091	5.23%
9/12/2007	\$42.26	\$42.25	\$42.26	710,718	-0.68%
9/13/2007	\$44.02	\$44.00	\$44.02	1,151,960	4.08%
9/14/2007	\$43.93	\$43.93	\$43.96	1,029,225	-0.20%
9/17/2007	\$46.25	\$46.23	\$46.26	1,357,029	5.15%
9/18/2007	\$49.53	\$49.48	\$49.49	2,917,866	6.85%
9/19/2007	\$48.98	\$48.98	\$48.99	1,976,283	-1.12%
9/20/2007	\$52.18	\$52.11	\$52.18	2,101,734	6.33%
9/21/2007	\$51.02	\$50.94	\$51.02	2,496,323	-2.25%
9/24/2007	\$50.50	\$50.58	\$50.68	1,551,961	-1.02%
9/25/2007	\$49.90	\$49.85	\$49.86	2,077,840	-1.20%
9/26/2007	\$49.31	\$49.24	\$49.31	2,019,148	-1.19%
9/27/2007	\$48.29	\$48.29	\$48.31	4,642,098	-2.09%
9/28/2007	\$48.24	\$48.24	\$48.32	1,550,177	-0.10%
10/1/2007	\$49.29	\$49.24	\$49.29	1,814,639	2.15%
10/2/2007	\$49.39	\$49.41	\$49.44	744,024	0.20%
10/3/2007	\$49.29	\$49.26	\$49.31	900,732	-0.20%
10/4/2007	\$52.24	\$52.14	\$52.24	1,703,201	5.81%
10/5/2007	\$53.53	\$53.50	\$53.52	1,234,412	2.44%
10/8/2007	\$55.87	\$55.77	\$55.81	1,818,417	4.28%
10/9/2007	\$55.52	\$55.50	\$55.53	1,495,626	-0.63%
10/10/2007	\$55.30	\$55.30	\$55.34	1,148,199	-0.40%
10/11/2007	\$52.76	\$52.72	\$52.76	1,663,060	-4.70%
10/12/2007	\$53.83	\$53.78	\$53.80	799,149	2.01%
10/15/2007	\$54.18	\$54.11	\$54.18	720,068	0.65%
10/16/2007	\$53.05	\$53.00	\$53.05	953,838	-2.11%
10/17/2007	\$54.75	\$54.74	\$54.75	959,129	3.15%
10/18/2007	\$55.21	\$55.13	\$55.21	906,844	0.84%

Exhibit-4**Sigma Designs, Inc. (Sigma) Stock Prices, Volume and Returns**

12 July 2007 through 13 March 2008

Date	Sigma Closing Price	Sigma Closing Bid	Sigma Closing Ask	Sigma Trading Volume	Sigma Logarithmic Return
10/19/2007	\$53.74	\$53.71	\$53.74	971,716	-2.70%
10/22/2007	\$54.78	\$54.59	\$54.84	1,002,864	1.92%
10/23/2007	\$56.94	\$56.87	\$56.95	1,133,360	3.87%
10/24/2007	\$55.11	\$55.03	\$55.12	1,216,629	-3.27%
10/25/2007	\$54.74	\$54.64	\$54.74	851,844	-0.67%
10/26/2007	\$56.16	\$56.12	\$56.16	944,397	2.56%
10/29/2007	\$58.29	\$58.27	\$58.33	835,402	3.72%
10/30/2007	\$58.59	\$58.47	\$58.56	932,652	0.51%
10/31/2007	\$58.77	\$58.69	\$58.77	1,007,079	0.31%
11/1/2007	\$58.69	\$58.70	\$58.71	974,161	-0.14%
11/2/2007	\$58.45	\$58.41	\$58.45	741,246	-0.41%
11/5/2007	\$58.37	\$58.35	\$58.37	849,438	-0.14%
11/6/2007	\$60.16	\$60.07	\$60.16	754,137	3.02%
11/7/2007	\$57.95	\$57.89	\$57.91	902,241	-3.74%
11/8/2007	\$55.25	\$55.14	\$55.15	1,733,995	-4.77%
11/9/2007	\$52.29	\$52.22	\$52.23	1,503,656	-5.51%
11/12/2007	\$54.76	\$54.69	\$54.77	1,802,484	4.62%
11/13/2007	\$56.83	\$56.74	\$56.83	1,170,727	3.71%
11/14/2007	\$57.94	\$57.94	\$57.95	1,105,747	1.93%
11/15/2007	\$56.12	\$56.11	\$56.12	988,502	-3.19%
11/16/2007	\$56.51	\$56.46	\$56.52	782,774	0.69%
11/19/2007	\$49.89	\$49.80	\$49.88	2,474,312	-12.46%
11/20/2007	\$51.88	\$51.77	\$51.88	1,947,105	3.91%
11/21/2007	\$49.78	\$49.73	\$49.77	1,992,373	-4.13%
11/23/2007	\$52.67	\$52.55	\$52.62	473,157	5.64%
11/26/2007	\$53.18	\$53.08	\$53.14	1,277,349	0.96%
11/27/2007	\$55.79	\$55.72	\$55.75	2,154,524	4.79%
11/28/2007	\$59.14	\$58.99	\$59.12	4,335,509	5.83%
11/29/2007	\$65.43	\$65.41	\$65.66	11,091,586	10.11%
11/30/2007	\$65.02	\$65.06	\$65.16	2,535,883	-0.63%
12/3/2007	\$67.83	\$67.63	\$67.84	2,612,182	4.23%
12/4/2007	\$66.92	\$66.80	\$66.83	1,067,865	-1.35%
12/5/2007	\$71.15	\$71.03	\$71.13	2,418,866	6.13%
12/6/2007	\$70.94	\$70.76	\$70.85	1,456,970	-0.30%
12/7/2007	\$70.44	\$70.37	\$70.44	1,394,553	-0.71%

Exhibit-4**Sigma Designs, Inc. (Sigma) Stock Prices, Volume and Returns**

12 July 2007 through 13 March 2008

Date	Sigma Closing Price	Sigma Closing Bid	Sigma Closing Ask	Sigma Trading Volume	Sigma Logarithmic Return
12/10/2007	\$72.17	\$72.10	\$72.20	1,149,304	2.43%
12/11/2007	\$66.45	\$66.50	\$66.59	2,589,496	-8.26%
12/12/2007	\$65.98	\$65.95	\$65.98	2,117,129	-0.71%
12/13/2007	\$66.07	\$66.01	\$66.07	1,518,978	0.14%
12/14/2007	\$65.87	\$65.76	\$65.87	898,114	-0.30%
12/17/2007	\$62.71	\$62.70	\$62.82	1,853,665	-4.92%
12/18/2007	\$61.89	\$61.93	\$61.94	1,983,950	-1.32%
12/19/2007	\$63.77	\$63.73	\$63.77	1,197,377	2.99%
12/20/2007	\$63.29	\$63.25	\$63.29	1,153,909	-0.76%
12/21/2007	\$60.43	\$60.10	\$60.15	2,528,557	-4.62%
12/24/2007	\$56.94	\$56.76	\$56.94	2,512,556	-5.95%
12/26/2007	\$56.80	\$56.70	\$56.75	2,995,568	-0.25%
12/27/2007	\$53.73	\$53.73	\$53.75	1,517,048	-5.56%
12/28/2007	\$57.67	\$57.60	\$57.66	2,778,363	7.08%
12/31/2007	\$55.20	\$55.22	\$55.25	2,472,070	-4.38%
1/2/2008	\$53.98	\$53.97	\$53.98	2,520,523	-2.23%
1/3/2008	\$55.18	\$55.13	\$55.17	1,934,742	2.20%
1/4/2008	\$50.55	\$50.48	\$50.50	4,095,657	-8.76%
1/7/2008	\$44.02	\$43.92	\$44.04	5,564,983	-13.83%
1/8/2008	\$45.42	\$45.38	\$45.40	4,259,430	3.13%
1/9/2008	\$44.75	\$44.67	\$44.75	3,807,212	-1.49%
1/10/2008	\$46.81	\$46.79	\$46.81	3,232,794	4.50%
1/11/2008	\$43.34	\$43.32	\$43.33	1,872,889	-7.70%
1/14/2008	\$44.64	\$44.63	\$44.64	1,993,978	2.96%
1/15/2008	\$41.12	\$41.10	\$41.12	2,234,858	-8.21%
1/16/2008	\$38.75	\$38.70	\$38.70	3,709,385	-5.94%
1/17/2008	\$35.48	\$35.45	\$35.53	2,515,514	-8.82%
1/18/2008	\$40.19	\$40.14	\$40.19	3,912,291	12.46%
1/22/2008	\$41.09	\$41.09	\$41.10	3,423,796	2.21%
1/23/2008	\$41.87	\$41.80	\$41.87	2,738,905	1.88%
1/24/2008	\$45.81	\$45.81	\$45.85	3,087,930	8.99%
1/25/2008	\$45.83	\$45.75	\$45.83	3,570,470	0.04%
1/28/2008	\$46.35	\$46.32	\$46.36	1,510,873	1.13%
1/29/2008	\$46.29	\$46.20	\$46.28	1,433,295	-0.13%
1/30/2008	\$43.27	\$43.27	\$43.29	3,656,589	-6.75%

Exhibit-4**Sigma Designs, Inc. (Sigma) Stock Prices, Volume and Returns**

12 July 2007 through 13 March 2008

Date	Sigma Closing Price	Sigma Closing Bid	Sigma Closing Ask	Sigma Trading Volume	Sigma Logarithmic Return
1/31/2008	\$45.22	\$44.95	\$45.03	2,223,089	4.41%
2/1/2008	\$48.56	\$48.50	\$48.53	2,499,753	7.13%
2/4/2008	\$49.59	\$49.55	\$49.59	1,656,084	2.10%
2/5/2008	\$43.16	\$43.16	\$43.21	4,039,626	-13.89%
2/6/2008	\$40.62	\$40.60	\$40.62	2,579,456	-6.07%
2/7/2008	\$40.12	\$40.09	\$40.12	3,206,426	-1.24%
2/8/2008	\$40.16	\$40.11	\$40.13	1,697,493	0.10%
2/11/2008	\$41.58	\$41.58	\$41.63	2,153,255	3.47%
2/12/2008	\$43.86	\$43.79	\$43.86	2,824,258	5.34%
2/13/2008	\$45.73	\$45.69	\$45.72	1,908,436	4.18%
2/14/2008	\$44.42	\$44.41	\$44.42	1,354,031	-2.91%
2/15/2008	\$44.95	\$44.95	\$44.96	1,355,778	1.19%
2/19/2008	\$40.39	\$40.39	\$40.47	5,630,340	-10.70%
2/20/2008	\$41.44	\$41.39	\$41.44	2,367,657	2.57%
2/21/2008	\$41.15	\$41.09	\$41.20	2,455,153	-0.70%
2/22/2008	\$34.98	\$34.99	\$35.06	7,511,346	-16.24%
2/25/2008	\$34.17	\$34.17	\$34.20	6,060,254	-2.34%
2/26/2008	\$30.61	\$30.52	\$30.58	6,477,556	-11.00%
2/27/2008	\$32.46	\$32.37	\$32.45	5,256,251	5.87%
2/28/2008	\$29.98	\$29.90	\$29.97	4,641,850	-7.95%
2/29/2008	\$29.47	\$29.42	\$29.49	4,455,609	-1.72%
3/3/2008	\$26.72	\$26.73	\$26.76	4,890,714	-9.80%
3/4/2008	\$26.55	\$26.50	\$26.52	4,395,761	-0.64%
3/5/2008	\$26.46	\$26.42	\$26.44	2,399,921	-0.34%
3/6/2008	\$27.24	\$27.25	\$27.27	3,557,670	2.91%
3/7/2008	\$26.36	\$26.30	\$26.37	4,085,073	-3.28%
3/10/2008	\$24.72	\$24.72	\$24.74	3,130,574	-6.42%
3/11/2008	\$26.65	\$26.60	\$26.63	3,640,833	7.52%
3/12/2008	\$25.26	\$25.25	\$25.26	6,244,019	-5.36%
3/13/2008	\$21.10	\$21.06	\$21.10	14,205,237	-17.99%

Source: CRSP.

Exhibit-5**Market and Peer Indexes**

12 July 2007 through 13 March 2008

Date	CRSP Market Total Return Index Level	CRSP Market Total Return Index Logarithmic Return	Peer Index Logarithmic Return
7/12/2007	3,967.53		
7/13/2007	3,980.11	0.32%	-0.08%
7/16/2007	3,967.96	-0.31%	0.33%
7/17/2007	3,967.63	-0.01%	0.35%
7/18/2007	3,961.52	-0.15%	-1.66%
7/19/2007	3,980.85	0.49%	0.98%
7/20/2007	3,934.37	-1.17%	-0.95%
7/23/2007	3,946.35	0.30%	-0.17%
7/24/2007	3,866.97	-2.03%	-3.20%
7/25/2007	3,877.39	0.27%	-0.57%
7/26/2007	3,784.90	-2.41%	-2.39%
7/27/2007	3,729.17	-1.48%	-1.79%
7/30/2007	3,763.75	0.92%	1.90%
7/31/2007	3,725.57	-1.02%	-2.08%
8/1/2007	3,740.92	0.41%	0.43%
8/2/2007	3,763.24	0.59%	-0.23%
8/3/2007	3,665.66	-2.63%	-3.00%
8/6/2007	3,731.79	1.79%	1.34%
8/7/2007	3,756.31	0.66%	-0.59%
8/8/2007	3,814.92	1.55%	2.82%
8/9/2007	3,712.31	-2.73%	-1.31%
8/10/2007	3,710.52	-0.05%	-0.37%
8/13/2007	3,708.43	-0.06%	-0.76%
8/14/2007	3,637.74	-1.92%	-1.06%
8/15/2007	3,580.79	-1.58%	-2.57%
8/16/2007	3,587.39	0.18%	0.38%
8/17/2007	3,675.00	2.41%	1.77%
8/20/2007	3,680.89	0.16%	0.61%
8/21/2007	3,688.85	0.22%	0.03%
8/22/2007	3,736.89	1.29%	0.51%
8/23/2007	3,730.90	-0.16%	-0.30%
8/24/2007	3,776.95	1.23%	1.62%
8/27/2007	3,745.60	-0.83%	-1.34%
8/28/2007	3,657.82	-2.37%	-2.73%
8/29/2007	3,737.65	2.16%	2.80%
8/30/2007	3,723.48	-0.38%	0.37%

Exhibit-5**Market and Peer Indexes**

12 July 2007 through 13 March 2008

Date	CRSP Market Total Return Index Level	CRSP Market Total Return Index Logarithmic Return	Peer Index Logarithmic Return
8/31/2007	3,769.28	1.22%	1.31%
9/4/2007	3,811.17	1.11%	2.52%
9/5/2007	3,772.75	-1.01%	-0.47%
9/6/2007	3,789.47	0.44%	1.52%
9/7/2007	3,727.88	-1.64%	-2.27%
9/10/2007	3,717.14	-0.29%	0.44%
9/11/2007	3,767.41	1.34%	0.85%
9/12/2007	3,768.26	0.02%	-1.43%
9/13/2007	3,796.18	0.74%	-0.66%
9/14/2007	3,800.98	0.13%	-0.72%
9/17/2007	3,778.89	-0.58%	-0.84%
9/18/2007	3,889.62	2.89%	2.08%
9/19/2007	3,912.09	0.58%	0.24%
9/20/2007	3,891.74	-0.52%	1.23%
9/21/2007	3,910.87	0.49%	0.71%
9/24/2007	3,893.36	-0.45%	0.28%
9/25/2007	3,891.67	-0.04%	0.27%
9/26/2007	3,913.09	0.55%	-0.43%
9/27/2007	3,934.03	0.53%	0.52%
9/28/2007	3,923.46	-0.27%	-0.33%
10/1/2007	3,977.33	1.36%	1.12%
10/2/2007	3,979.31	0.05%	-0.75%
10/3/2007	3,958.77	-0.52%	-1.48%
10/4/2007	3,969.53	0.27%	0.42%
10/5/2007	4,016.47	1.18%	1.11%
10/8/2007	4,004.37	-0.30%	0.77%
10/9/2007	4,036.66	0.80%	0.80%
10/10/2007	4,035.73	-0.02%	0.08%
10/11/2007	4,014.78	-0.52%	-2.35%
10/12/2007	4,036.20	0.53%	0.77%
10/15/2007	4,001.51	-0.86%	-0.76%
10/16/2007	3,973.40	-0.70%	0.06%
10/17/2007	3,984.73	0.28%	0.96%
10/18/2007	3,986.20	0.04%	-0.58%
10/19/2007	3,888.15	-2.49%	-2.73%
10/22/2007	3,900.82	0.33%	0.86%

Exhibit-5**Market and Peer Indexes**

12 July 2007 through 13 March 2008

Date	CRSP Market Total Return Index Level	CRSP Market Total Return Index Logarithmic Return	Peer Index Logarithmic Return
10/23/2007	3,940.86	1.02%	-3.53%
10/24/2007	3,928.11	-0.32%	-2.90%
10/25/2007	3,924.12	-0.10%	-1.55%
10/26/2007	3,978.38	1.37%	0.62%
10/29/2007	3,999.85	0.54%	0.70%
10/30/2007	3,972.18	-0.69%	-0.38%
10/31/2007	4,024.63	1.31%	0.80%
11/1/2007	3,920.34	-2.63%	-1.59%
11/2/2007	3,928.40	0.21%	0.63%
11/5/2007	3,902.44	-0.66%	0.72%
11/6/2007	3,952.55	1.28%	1.88%
11/7/2007	3,846.21	-2.73%	-2.67%
11/8/2007	3,843.94	-0.06%	-1.62%
11/9/2007	3,786.02	-1.52%	-0.78%
11/12/2007	3,732.92	-1.41%	-1.70%
11/13/2007	3,837.19	2.75%	1.88%
11/14/2007	3,814.88	-0.58%	-2.21%
11/15/2007	3,761.02	-1.42%	-0.35%
11/16/2007	3,778.36	0.46%	1.23%
11/19/2007	3,707.66	-1.89%	-2.52%
11/20/2007	3,722.46	0.40%	-1.12%
11/21/2007	3,665.54	-1.54%	-1.97%
11/23/2007	3,725.48	1.62%	0.92%
11/26/2007	3,649.19	-2.07%	-2.51%
11/27/2007	3,694.20	1.23%	1.59%
11/28/2007	3,802.96	2.90%	3.09%
11/29/2007	3,801.65	-0.03%	-0.78%
11/30/2007	3,828.69	0.71%	-1.70%
12/3/2007	3,807.50	-0.55%	0.05%
12/4/2007	3,779.92	-0.73%	-0.63%
12/5/2007	3,834.60	1.44%	2.49%
12/6/2007	3,895.05	1.56%	0.19%
12/7/2007	3,894.45	-0.02%	0.51%
12/10/2007	3,924.81	0.78%	0.71%
12/11/2007	3,824.85	-2.58%	-0.25%
12/12/2007	3,846.44	0.56%	1.00%

Exhibit-5**Market and Peer Indexes**

12 July 2007 through 13 March 2008

Date	CRSP Market Total Return Index Level	CRSP Market Total Return Index Logarithmic Return	Peer Index Logarithmic Return
12/13/2007	3,843.35	-0.08%	-0.20%
12/14/2007	3,791.94	-1.35%	-1.42%
12/17/2007	3,731.46	-1.61%	-1.48%
12/18/2007	3,755.06	0.63%	-0.51%
12/19/2007	3,753.78	-0.03%	0.13%
12/20/2007	3,777.39	0.63%	0.93%
12/21/2007	3,841.95	1.69%	0.25%
12/24/2007	3,877.13	0.91%	0.77%
12/26/2007	3,882.92	0.15%	0.02%
12/27/2007	3,830.21	-1.37%	-1.76%
12/28/2007	3,837.99	0.20%	-0.24%
12/31/2007	3,812.94	-0.65%	-0.10%
1/2/2008	3,767.53	-1.20%	-2.60%
1/3/2008	3,763.88	-0.10%	-1.67%
1/4/2008	3,667.11	-2.60%	-4.41%
1/7/2008	3,667.76	0.02%	-0.82%
1/8/2008	3,604.87	-1.73%	-0.77%
1/9/2008	3,640.78	0.99%	-0.53%
1/10/2008	3,671.51	0.84%	0.57%
1/11/2008	3,620.55	-1.40%	-3.05%
1/14/2008	3,658.42	1.04%	2.90%
1/15/2008	3,568.10	-2.50%	-2.96%
1/16/2008	3,544.83	-0.65%	0.02%
1/17/2008	3,446.13	-2.82%	-0.64%
1/18/2008	3,426.39	-0.57%	1.43%
1/22/2008	3,394.51	-0.93%	-2.19%
1/23/2008	3,462.21	1.97%	2.72%
1/24/2008	3,505.48	1.24%	1.96%

Exhibit-5**Market and Peer Indexes**

12 July 2007 through 13 March 2008

Date	CRSP Market Total Return Index Level	CRSP Market Total Return Index Logarithmic Return	Peer Index Logarithmic Return
1/25/2008	3,459.56	-1.32%	-1.61%
1/28/2008	3,519.15	1.71%	1.34%
1/29/2008	3,541.79	0.64%	0.29%
1/30/2008	3,522.89	-0.53%	0.89%
1/31/2008	3,575.70	1.49%	0.01%
2/1/2008	3,632.94	1.59%	2.75%
2/4/2008	3,600.13	-0.91%	-1.55%
2/5/2008	3,489.24	-3.13%	-4.63%
2/6/2008	3,461.25	-0.81%	-1.72%
2/7/2008	3,488.12	0.77%	-0.92%
2/8/2008	3,481.01	-0.20%	0.85%
2/11/2008	3,501.23	0.58%	1.36%
2/12/2008	3,523.01	0.62%	0.24%
2/13/2008	3,573.91	1.43%	2.09%
2/14/2008	3,526.43	-1.34%	-1.61%
2/15/2008	3,524.68	-0.05%	-1.13%
2/19/2008	3,526.48	0.05%	-1.37%
2/20/2008	3,558.01	0.89%	1.90%
2/21/2008	3,515.63	-1.20%	-0.41%
2/22/2008	3,539.42	0.67%	0.04%
2/25/2008	3,592.97	1.50%	0.77%
2/26/2008	3,622.40	0.82%	2.09%
2/27/2008	3,619.45	-0.08%	1.30%
2/28/2008	3,591.45	-0.78%	-2.11%
2/29/2008	3,497.34	-2.66%	-3.18%
3/3/2008	3,495.70	-0.05%	-0.88%
3/4/2008	3,479.36	-0.47%	-1.20%
3/5/2008	3,503.28	0.69%	1.43%
3/6/2008	3,426.03	-2.23%	-2.87%
3/7/2008	3,396.06	-0.88%	-0.48%
3/10/2008	3,333.86	-1.85%	-0.13%
3/11/2008	3,453.29	3.52%	-0.62%
3/12/2008	3,428.97	-0.71%	-0.83%
3/13/2008	3,454.25	0.73%	1.78%

Source: CRSP.

Exhibit-6
Sigma Regression Results

Estimation Period: 13 July 2007 through 12 March 2008

Regression Statistics			
R Squared	0.289		
Adjusted R Squared	0.272		
Standard Error	4.08%		
Observations	168		

	Coefficients	Standard Error	t- statistic
Intercept	0.09%	0.32%	0.29
Market Index	0.975	0.368	2.65
Peer Index	0.791	0.307	2.58
30 August 2007	10.01%	4.11%	2.44
29 November 2007	10.67%	4.10%	2.60

Exhibit-7
Sigma Event Study Results

Date	Sigma Closing Price	Sigma Prior Day Closing Price	Sigma Logarithmic Return	Market Index Logarithmic Return	Peer Index Logarithmic Return	Sigma Explained Return	Sigma Residual Return	<i>t</i>-statistic	Residual \$ Return
30 August 2007	\$42.70	\$38.63	10.02%	-0.38%	0.37%	0.01%	10.01%	2.45	\$4.07
29 November 2007	\$65.43	\$59.14	10.11%	-0.03%	-0.78%	-0.56%	10.67%	2.61	\$6.66
13 March 2008	\$21.10	\$25.26	-17.99%	0.73%	1.78%	2.22%	-20.21%	-4.95	(\$4.62)

Exhibit-8**LIFO Trade Profits**

Panel A.		Profit on Shares Sold				
Fund	Buy Date	Net Price- Buy	Shares Traded	Sale Date	Net Price- Sale	Trade Profit (Loss)
Institutional	7/13/2007	\$ 29.62	1,556	1/8/2008	\$ 46.65	\$ 26,499
Institutional	7/17/2007	\$ 31.80	5,257	8/7/2007	\$ 31.68	\$ (655)
Institutional	7/17/2007	\$ 31.80	5,757	8/9/2007	\$ 35.07	\$ 18,816
Institutional	7/17/2007	\$ 31.80	1,901	8/28/2007	\$ 37.57	\$ 10,960
Institutional	7/17/2007	\$ 31.80	4,853	8/28/2007	\$ 37.10	\$ 25,700
Institutional	7/17/2007	\$ 32.00	904	8/28/2007	\$ 37.10	\$ 4,614
Institutional	7/17/2007	\$ 32.00	17,271	8/29/2007	\$ 41.16	\$ 158,368
Institutional	7/17/2007	\$ 32.00	2,379	1/7/2008	\$ 43.88	\$ 28,277
Institutional	7/17/2007	\$ 32.00	4,471	1/8/2008	\$ 46.65	\$ 65,521
Institutional	7/18/2007	\$ 31.30	1,925	8/7/2007	\$ 31.68	\$ 736
Institutional	7/25/2007	\$ 30.68	489	8/3/2007	\$ 31.74	\$ 516
Institutional	7/25/2007	\$ 30.68	7,211	8/7/2007	\$ 31.68	\$ 7,205
Institutional	7/31/2007	\$ 31.92	4,813	8/3/2007	\$ 31.74	\$ (878)
Institutional	8/21/2007	\$ 34.99	4,798	8/27/2007	\$ 36.88	\$ 9,052
Institutional	8/21/2007	\$ 34.99	18,231	8/28/2007	\$ 37.52	\$ 46,105
Institutional	8/21/2007	\$ 34.99	2,878	8/28/2007	\$ 37.57	\$ 7,410
Institutional	8/21/2007	\$ 34.05	19	8/28/2007	\$ 37.57	\$ 67
Institutional	9/11/2007	\$ 42.49	1,118	12/26/2007	\$ 54.06	\$ 12,928
Institutional	9/11/2007	\$ 42.49	1,980	1/7/2008	\$ 44.45	\$ 3,872
Institutional	9/11/2007	\$ 42.49	10,167	1/7/2008	\$ 43.88	\$ 14,108
Institutional	9/18/2007	\$ 48.43	2,853	12/12/2007	\$ 65.21	\$ 47,870
Institutional	9/18/2007	\$ 48.43	6,792	12/13/2007	\$ 65.06	\$ 112,916
Institutional	9/18/2007	\$ 48.43	3,699	12/20/2007	\$ 62.87	\$ 53,400
Institutional	9/18/2007	\$ 48.38	13,572	12/20/2007	\$ 62.87	\$ 196,614
Institutional	9/18/2007	\$ 48.38	1,881	12/20/2007	\$ 62.82	\$ 27,162
Institutional	9/18/2007	\$ 48.38	9,315	12/21/2007	\$ 60.09	\$ 109,040
Institutional	9/18/2007	\$ 48.41	840	12/21/2007	\$ 60.09	\$ 9,811
Institutional	9/18/2007	\$ 48.41	3,960	12/26/2007	\$ 54.06	\$ 22,361
Institutional	9/19/2007	\$ 50.20	2,515	9/25/2007	\$ 50.01	\$ (488)
Institutional	9/19/2007	\$ 50.20	3,542	9/25/2007	\$ 50.02	\$ (637)
Institutional	9/19/2007	\$ 50.20	9,600	9/26/2007	\$ 49.18	\$ (9,769)
Institutional	9/19/2007	\$ 50.20	6,900	12/4/2007	\$ 66.80	\$ 114,543
Institutional	9/19/2007	\$ 50.20	3,939	12/12/2007	\$ 65.21	\$ 59,130
Institutional	9/21/2007	\$ 52.09	9,600	9/25/2007	\$ 50.01	\$ (19,955)
Institutional	9/21/2007	\$ 50.91	3,840	9/25/2007	\$ 50.01	\$ (3,464)
Institutional	9/27/2007	\$ 49.00	9,600	10/9/2007	\$ 55.34	\$ 60,870
Institutional	9/27/2007	\$ 46.00	6,223	10/9/2007	\$ 55.34	\$ 58,136
Institutional	9/27/2007	\$ 46.00	2,495	10/10/2007	\$ 54.77	\$ 21,886
Institutional	9/27/2007	\$ 46.00	6,955	10/10/2007	\$ 56.32	\$ 71,741
Institutional	9/27/2007	\$ 46.00	1,377	12/3/2007	\$ 68.48	\$ 30,949

Exhibit-8**LIFO Trade Profits**

Panel A. Profit on Shares Sold						
Fund	Buy Date	Net Price- Buy	Shares Traded	Sale Date	Net Price- Sale	Trade Profit (Loss)
Institutional	9/27/2007	\$ 46.00	2,150	12/4/2007	\$ 66.80	\$ 44,725
Institutional	9/28/2007	\$ 48.32	2,880	10/9/2007	\$ 55.34	\$ 20,220
Institutional	10/4/2007	\$ 51.18	8,921	10/4/2007	\$ 51.09	\$ (794)
Institutional	10/4/2007	\$ 51.69	1,173	10/4/2007	\$ 51.09	\$ (699)
Institutional	10/4/2007	\$ 51.69	5,593	10/9/2007	\$ 55.34	\$ 20,444
Institutional	10/31/2007	\$ 58.76	3,780	12/3/2007	\$ 68.48	\$ 36,707
Institutional	11/9/2007	\$ 53.22	4,500	11/30/2007	\$ 65.33	\$ 54,485
Institutional	11/9/2007	\$ 53.49	594	11/30/2007	\$ 65.33	\$ 7,031
Institutional	11/9/2007	\$ 53.49	3,906	12/3/2007	\$ 68.48	\$ 58,536
Institutional	11/20/2007	\$ 53.71	5,148	11/29/2007	\$ 66.54	\$ 66,010
Institutional	11/20/2007	\$ 53.71	7,452	11/30/2007	\$ 65.33	\$ 86,535
Institutional	11/27/2007	\$ 55.16	9,000	11/28/2007	\$ 57.02	\$ 16,732
Institutional	11/27/2007	\$ 55.16	11,052	11/29/2007	\$ 66.54	\$ 125,704
Overseas	7/13/2007	\$ 29.30	13,434	1/8/2008	\$ 46.65	\$ 233,060
Overseas	7/17/2007	\$ 31.80	15,089	8/7/2007	\$ 31.68	\$ (1,881)
Overseas	7/17/2007	\$ 31.80	16,326	8/9/2007	\$ 35.07	\$ 53,359
Overseas	7/17/2007	\$ 31.80	5,387	8/28/2007	\$ 37.52	\$ 30,812
Overseas	7/17/2007	\$ 31.80	13,363	8/28/2007	\$ 37.10	\$ 70,766
Overseas	7/17/2007	\$ 32.00	2,963	8/28/2007	\$ 37.10	\$ 15,124
Overseas	7/17/2007	\$ 32.00	48,978	8/29/2007	\$ 41.16	\$ 449,107
Overseas	7/17/2007	\$ 32.00	14,042	1/7/2008	\$ 43.88	\$ 166,904
Overseas	7/17/2007	\$ 32.00	4,672	1/8/2008	\$ 46.65	\$ 68,466
Overseas	7/18/2007	\$ 31.30	5,435	8/7/2007	\$ 31.68	\$ 2,078
Overseas	7/25/2007	\$ 30.68	1,449	8/3/2007	\$ 31.74	\$ 1,530
Overseas	7/25/2007	\$ 30.68	20,291	8/7/2007	\$ 31.68	\$ 20,273
Overseas	7/31/2007	\$ 31.92	13,587	8/3/2007	\$ 31.74	\$ (2,478)
Overseas	8/21/2007	\$ 34.99	13,605	8/27/2007	\$ 36.88	\$ 25,668
Overseas	8/21/2007	\$ 34.99	13,605	8/28/2007	\$ 37.57	\$ 35,030
Overseas	8/21/2007	\$ 34.99	46,257	8/28/2007	\$ 37.52	\$ 116,980
Overseas	8/21/2007	\$ 34.05	55	8/28/2007	\$ 37.52	\$ 191
Overseas	9/11/2007	\$ 42.49	1,879	12/26/2007	\$ 54.06	\$ 21,727
Overseas	9/11/2007	\$ 42.49	12,098	1/7/2008	\$ 44.45	\$ 23,660
Overseas	9/11/2007	\$ 42.49	23,677	1/7/2008	\$ 43.88	\$ 32,855
Overseas	9/18/2007	\$ 48.38	6,334	12/12/2007	\$ 65.21	\$ 106,597
Overseas	9/18/2007	\$ 48.38	19,365	12/13/2007	\$ 65.06	\$ 322,915
Overseas	9/18/2007	\$ 48.38	5,357	12/20/2007	\$ 62.82	\$ 77,355
Overseas	9/18/2007	\$ 48.38	39,249	12/20/2007	\$ 62.87	\$ 568,590
Overseas	9/18/2007	\$ 48.43	9,938	12/20/2007	\$ 62.87	\$ 143,469
Overseas	9/18/2007	\$ 48.43	27,940	12/21/2007	\$ 60.09	\$ 325,657
Overseas	9/18/2007	\$ 48.41	1,023	12/21/2007	\$ 60.09	\$ 11,948

Exhibit-8**LIFO Trade Profits**

Panel A.		Profit on Shares Sold				
Fund	Buy Date	Net Price- Buy	Shares Traded	Sale Date	Net Price- Sale	Trade Profit (Loss)
Overseas	9/18/2007	\$ 48.41	12,602	12/26/2007	\$ 54.06	\$ 71,159
Overseas	9/19/2007	\$ 50.20	7,140	9/25/2007	\$ 50.01	\$ (1,386)
Overseas	9/19/2007	\$ 50.20	10,056	9/25/2007	\$ 50.02	\$ (1,809)
Overseas	9/19/2007	\$ 50.20	27,250	9/26/2007	\$ 49.18	\$ (27,731)
Overseas	9/19/2007	\$ 50.20	17,733	12/4/2007	\$ 66.80	\$ 294,376
Overseas	9/19/2007	\$ 50.20	13,031	12/12/2007	\$ 65.21	\$ 195,614
Overseas	9/21/2007	\$ 50.91	10,900	9/25/2007	\$ 50.01	\$ (9,833)
Overseas	9/21/2007	\$ 52.09	27,250	9/25/2007	\$ 50.01	\$ (56,644)
Overseas	9/27/2007	\$ 46.00	43,484	10/9/2007	\$ 55.34	\$ 406,234
Overseas	9/27/2007	\$ 46.00	6,890	10/10/2007	\$ 54.77	\$ 60,438
Overseas	9/27/2007	\$ 46.00	4,126	10/10/2007	\$ 56.32	\$ 42,560
Overseas	9/27/2007	\$ 49.00	15,084	10/10/2007	\$ 56.32	\$ 110,317
Overseas	9/27/2007	\$ 49.00	4,326	12/3/2007	\$ 68.48	\$ 84,244
Overseas	9/27/2007	\$ 49.00	7,840	12/4/2007	\$ 66.80	\$ 139,558
Overseas	9/28/2007	\$ 48.32	8,175	10/9/2007	\$ 55.34	\$ 57,395
Overseas	10/4/2007	\$ 51.18	24,638	10/4/2007	\$ 51.09	\$ (2,192)
Overseas	10/4/2007	\$ 51.69	3,243	10/4/2007	\$ 51.09	\$ (1,932)
Overseas	10/4/2007	\$ 51.69	15,445	10/9/2007	\$ 55.34	\$ 56,455
Overseas	10/31/2007	\$ 58.76	10,440	12/3/2007	\$ 68.48	\$ 101,381
Overseas	11/9/2007	\$ 53.22	12,725	11/30/2007	\$ 65.33	\$ 154,072
Overseas	11/9/2007	\$ 53.49	1,680	11/30/2007	\$ 65.33	\$ 19,885
Overseas	11/9/2007	\$ 53.49	11,045	12/3/2007	\$ 68.48	\$ 165,522
Overseas	11/20/2007	\$ 53.71	14,557	11/29/2007	\$ 66.54	\$ 186,657
Overseas	11/20/2007	\$ 53.71	21,073	11/30/2007	\$ 65.33	\$ 244,706
Overseas	11/27/2007	\$ 55.16	25,450	11/28/2007	\$ 57.02	\$ 47,315
Overseas	11/27/2007	\$ 55.16	31,253	11/29/2007	\$ 66.54	\$ 355,468
Partners	7/13/2007	\$ 29.62	6,496	12/21/2007	\$ 60.09	\$ 197,936
Partners	7/13/2007	\$ 29.62	5,437	12/26/2007	\$ 54.06	\$ 132,865
Partners	7/13/2007	\$ 29.30	5,004	12/26/2007	\$ 54.06	\$ 123,876
Partners	7/13/2007	\$ 29.30	3,450	1/4/2008	\$ 49.93	\$ 71,160
Partners	7/13/2007	\$ 29.30	2,106	1/7/2008	\$ 43.88	\$ 30,705
Partners	7/17/2007	\$ 31.80	7,284	8/7/2007	\$ 31.68	\$ (908)
Partners	7/17/2007	\$ 31.80	7,917	8/9/2007	\$ 35.07	\$ 25,876
Partners	7/17/2007	\$ 31.80	9,166	8/28/2007	\$ 37.52	\$ 52,427
Partners	7/17/2007	\$ 32.00	1,363	8/28/2007	\$ 37.52	\$ 7,535
Partners	7/17/2007	\$ 32.00	23,751	8/29/2007	\$ 41.16	\$ 217,786
Partners	7/17/2007	\$ 32.00	9,206	12/21/2007	\$ 60.09	\$ 258,639
Partners	7/18/2007	\$ 31.30	2,640	8/7/2007	\$ 31.68	\$ 1,009
Partners	7/25/2007	\$ 30.68	692	8/3/2007	\$ 31.74	\$ 731
Partners	7/25/2007	\$ 30.68	9,868	8/7/2007	\$ 31.68	\$ 9,859

Exhibit-8**LIFO Trade Profits**

Panel A.		Profit on Shares Sold				
Fund	Buy Date	Net Price- Buy	Shares Traded	Sale Date	Net Price- Sale	Trade Profit (Loss)
Partners	7/31/2007	\$ 31.92	6,600	8/3/2007	\$ 31.74	\$ (1,204)
Partners	8/21/2007	\$ 34.05	26	8/27/2007	\$ 36.88	\$ 74
Partners	8/21/2007	\$ 34.99	6,571	8/27/2007	\$ 36.88	\$ 12,397
Partners	8/21/2007	\$ 34.99	6,597	8/28/2007	\$ 37.57	\$ 16,986
Partners	8/21/2007	\$ 34.99	7,917	8/28/2007	\$ 37.10	\$ 16,664
Partners	8/21/2007	\$ 34.99	14,541	8/28/2007	\$ 37.52	\$ 36,773
Partners	9/11/2007	\$ 42.49	9,229	12/20/2007	\$ 62.87	\$ 188,060
Partners	9/11/2007	\$ 42.49	3,762	12/20/2007	\$ 62.82	\$ 76,482
Partners	9/11/2007	\$ 42.49	5,180	12/21/2007	\$ 60.09	\$ 91,148
Partners	9/18/2007	\$ 48.38	5,781	12/4/2007	\$ 66.80	\$ 106,477
Partners	9/18/2007	\$ 48.38	13,843	12/12/2007	\$ 65.21	\$ 232,968
Partners	9/18/2007	\$ 48.38	13,843	12/13/2007	\$ 65.06	\$ 230,835
Partners	9/18/2007	\$ 48.38	460	12/20/2007	\$ 62.87	\$ 6,664
Partners	9/18/2007	\$ 48.43	18,278	12/20/2007	\$ 62.87	\$ 263,869
Partners	9/18/2007	\$ 48.41	6,575	12/20/2007	\$ 62.87	\$ 95,079
Partners	9/19/2007	\$ 50.20	8,297	9/25/2007	\$ 50.01	\$ (1,610)
Partners	9/19/2007	\$ 50.20	13,150	9/26/2007	\$ 49.18	\$ (13,382)
Partners	9/19/2007	\$ 50.20	5,251	12/3/2007	\$ 68.48	\$ 95,954
Partners	9/19/2007	\$ 50.20	9,596	12/4/2007	\$ 66.80	\$ 159,298
Partners	9/21/2007	\$ 50.91	4,852	9/25/2007	\$ 50.02	\$ (4,308)
Partners	9/21/2007	\$ 50.91	408	9/25/2007	\$ 50.01	\$ (368)
Partners	9/21/2007	\$ 52.09	13,150	9/25/2007	\$ 50.01	\$ (27,334)
Partners	9/27/2007	\$ 46.00	24,654	10/9/2007	\$ 55.34	\$ 230,321
Partners	9/27/2007	\$ 46.00	1,646	10/10/2007	\$ 56.32	\$ 16,979
Partners	9/27/2007	\$ 49.00	8,989	10/10/2007	\$ 56.32	\$ 65,741
Partners	9/27/2007	\$ 49.00	3,815	10/10/2007	\$ 54.77	\$ 22,014
Partners	9/27/2007	\$ 49.00	346	12/3/2007	\$ 68.48	\$ 6,738
Partners	9/28/2007	\$ 48.32	3,945	10/9/2007	\$ 55.34	\$ 27,697
Partners	10/4/2007	\$ 51.18	13,641	10/4/2007	\$ 51.09	\$ (1,214)
Partners	10/4/2007	\$ 51.69	1,794	10/4/2007	\$ 51.09	\$ (1,069)
Partners	10/4/2007	\$ 51.69	8,552	10/9/2007	\$ 55.34	\$ 31,260
Partners	10/31/2007	\$ 58.76	5,780	12/3/2007	\$ 68.48	\$ 56,129
Partners	11/9/2007	\$ 53.49	7,775	11/30/2007	\$ 65.33	\$ 92,029
Partners	11/9/2007	\$ 53.22	1,026	11/30/2007	\$ 65.33	\$ 12,423
Partners	11/9/2007	\$ 53.22	6,749	12/3/2007	\$ 68.48	\$ 102,973
Partners	11/20/2007	\$ 53.71	8,895	11/29/2007	\$ 66.54	\$ 114,056
Partners	11/20/2007	\$ 53.71	12,875	11/30/2007	\$ 65.33	\$ 149,508
Partners	11/27/2007	\$ 55.16	15,550	11/28/2007	\$ 57.02	\$ 28,909
Partners	11/27/2007	\$ 55.16	19,095	11/29/2007	\$ 66.54	\$ 217,184

Exhibit-8
LIFO Trade Profits

Panel B. Profit on Short Sales

Fund	Short Sale Date	Net Price-Short	Shares Traded	Buy Cover Date	Net Price-Buy Cover	Trade Profit (Loss)
Institutional	2/25/2008	\$ 34.34	2,415	2/29/2008	\$ 31.35	\$ 7,216
Institutional	2/25/2008	\$ 34.34	1,207	3/20/2008	\$ 21.64	\$ 15,321
Institutional	2/26/2008	\$ 34.16	1,771	2/28/2008	\$ 29.62	\$ 8,044
Institutional	2/26/2008	\$ 34.16	4,749	2/28/2008	\$ 29.78	\$ 20,799
Institutional	2/26/2008	\$ 32.03	9,580	2/28/2008	\$ 29.78	\$ 21,605
Institutional	2/26/2008	\$ 32.03	16,100	2/28/2008	\$ 30.24	\$ 28,862
Institutional	2/26/2008	\$ 32.03	8,050	2/29/2008	\$ 31.35	\$ 5,507
Institutional	3/4/2008	\$ 26.35	13,685	3/20/2008	\$ 21.64	\$ 64,400
Overseas	2/25/2008	\$ 34.34	7,230	2/29/2008	\$ 31.35	\$ 21,602
Overseas	2/25/2008	\$ 34.34	3,608	3/20/2008	\$ 21.64	\$ 45,799
Overseas	2/26/2008	\$ 34.16	19,521	2/28/2008	\$ 29.78	\$ 85,495
Overseas	2/26/2008	\$ 32.03	23,377	2/28/2008	\$ 29.78	\$ 52,721
Overseas	2/26/2008	\$ 32.03	5,302	2/28/2008	\$ 29.62	\$ 12,817
Overseas	2/26/2008	\$ 32.03	48,200	2/28/2008	\$ 30.24	\$ 86,406
Overseas	2/26/2008	\$ 32.03	24,100	2/29/2008	\$ 31.35	\$ 16,486
Overseas	3/4/2008	\$ 26.35	40,885	3/20/2008	\$ 21.64	\$ 192,401
Partners	2/25/2008	\$ 34.15	5,355	2/29/2008	\$ 31.35	\$ 15,001
Partners	2/25/2008	\$ 34.25	2,685	3/20/2008	\$ 21.64	\$ 33,848
Partners	2/26/2008	\$ 32.03	35,700	2/28/2008	\$ 30.24	\$ 63,998
Partners	2/26/2008	\$ 32.03	31,773	2/28/2008	\$ 29.78	\$ 71,656
Partners	2/26/2008	\$ 32.03	3,927	2/28/2008	\$ 29.62	\$ 9,493
Partners	2/26/2008	\$ 32.03	3,391	2/29/2008	\$ 31.35	\$ 2,320
Partners	2/26/2008	\$ 34.16	14,459	2/29/2008	\$ 31.35	\$ 40,607
Partners	3/4/2008	\$ 26.35	30,430	3/20/2008	\$ 21.64	\$ 143,201

Exhibit-8
LIFO Trade Profits

Panel C. Imputed Profit on Shares Not Sold

Fund	Buy Date	Net Price- Buy	Shares Traded	Market Price after Disclosure	Imputed Trade Profit
Institutional	7/13/2007	\$ 29.62	7,145	\$ 42.70	\$ 93,461
Institutional	7/13/2007	\$ 29.30	7,700	\$ 42.70	\$ 103,170
Overseas	7/13/2007	\$ 29.30	8,306	\$ 42.70	\$ 111,290
Overseas	7/13/2007	\$ 29.62	24,566	\$ 42.70	\$ 321,338
Institutional	3/10/2008	\$ 25.00	40,653	\$ 21.10	\$ (158,726)

Exhibit-8
LIFO Trade Profits

Panel D. Imputed Profit on Open Short Sale Positions

Fund	Short Sale Date	Net Price-Short Sale	Shares Traded	Market Price after Disclosure	Imputed Trade Profit
Institutional	2/25/2008	\$ 34.34	1,208	\$ 21.10	\$ 15,990
Institutional	2/25/2008	\$ 34.20	7,245	\$ 21.10	\$ 94,884
Institutional	2/25/2008	\$ 34.15	2,415	\$ 21.10	\$ 31,515
Institutional	2/25/2008	\$ 34.25	4,025	\$ 21.10	\$ 52,926
Institutional	2/25/2008	\$ 32.99	25,760	\$ 21.10	\$ 306,411
Overseas	2/25/2008	\$ 34.34	3,622	\$ 21.10	\$ 47,942
Overseas	2/25/2008	\$ 34.25	12,050	\$ 21.10	\$ 158,448
Overseas	2/25/2008	\$ 34.20	21,690	\$ 21.10	\$ 284,064
Overseas	2/25/2008	\$ 32.99	77,120	\$ 21.10	\$ 917,330
Overseas	2/25/2008	\$ 34.15	7,230	\$ 21.10	\$ 94,350
Partners	2/25/2008	\$ 34.25	6,240	\$ 21.10	\$ 82,051
Partners	2/25/2008	\$ 32.99	57,120	\$ 21.10	\$ 679,433
Partners	2/25/2008	\$ 34.20	16,065	\$ 21.10	\$ 210,396
Partners	2/25/2008	\$ 34.34	10,710	\$ 21.10	\$ 141,762

Exhibit-9**FIFO Trade Profits****Panel A. Profit on Shares Sold**

Fund	Buy Date	Net Price- Buy	Shares Traded	Sale Date	Net Price- Sale	Trade Profit (Loss)
Partners	7/13/2007	\$ 29.30	10,560	12/13/2007	\$ 65.06	\$ 377,602
Partners	7/13/2007	\$ 29.62	33	12/13/2007	\$ 65.06	\$ 1,170
Partners	7/13/2007	\$ 29.62	11,900	12/20/2007	\$ 62.87	\$ 395,690
Partners	7/17/2007	\$ 32.00	22,642	12/20/2007	\$ 62.87	\$ 699,082
Partners	7/17/2007	\$ 32.00	3,762	12/20/2007	\$ 62.82	\$ 115,977
Partners	7/17/2007	\$ 32.00	7,916	12/21/2007	\$ 60.09	\$ 222,397
Partners	7/17/2007	\$ 31.80	12,966	12/21/2007	\$ 60.09	\$ 366,756
Partners	7/17/2007	\$ 31.80	10,441	12/26/2007	\$ 54.06	\$ 232,342
Partners	7/17/2007	\$ 31.80	603	1/2/2008	\$ 56.49	\$ 14,886
Partners	7/17/2007	\$ 31.80	357	1/2/2008	\$ 54.72	\$ 8,183
Partners	7/18/2007	\$ 31.30	2,640	1/2/2008	\$ 54.72	\$ 61,849
Partners	7/25/2007	\$ 30.68	10,560	1/2/2008	\$ 54.72	\$ 253,907
Partners	7/31/2007	\$ 31.92	6,600	1/2/2008	\$ 54.72	\$ 150,517
Partners	8/21/2007	\$ 34.99	1,001	1/2/2008	\$ 54.72	\$ 19,749
Partners	8/21/2007	\$ 34.99	3,728	1/3/2008	\$ 54.84	\$ 73,992
Partners	8/21/2007	\$ 34.99	15,974	1/4/2008	\$ 49.11	\$ 225,520
Partners	8/21/2007	\$ 34.99	14,923	1/4/2008	\$ 50.25	\$ 227,582
Partners	8/21/2007	\$ 34.05	26	1/4/2008	\$ 50.25	\$ 421
Partners	9/11/2007	\$ 42.49	2,800	1/4/2008	\$ 50.25	\$ 21,704
Partners	9/11/2007	\$ 42.49	9,692	1/4/2008	\$ 51.32	\$ 85,538
Partners	9/11/2007	\$ 42.49	5,679	1/4/2008	\$ 49.93	\$ 42,216
Partners	9/18/2007	\$ 48.41	6,500	1/4/2008	\$ 49.93	\$ 9,863
Partners	9/18/2007	\$ 48.41	75	1/7/2008	\$ 43.88	\$ (340)
Partners	9/18/2007	\$ 48.43	18,278	1/7/2008	\$ 43.88	\$ (83,219)
Partners	9/18/2007	\$ 48.38	9,313	1/7/2008	\$ 43.88	\$ (41,933)
Partners	9/18/2007	\$ 48.38	8,875	1/7/2008	\$ 44.45	\$ (34,919)
Partners	9/18/2007	\$ 48.38	13,282	1/8/2008	\$ 46.65	\$ (23,033)
Partners	9/18/2007	\$ 48.38	2,457	1/31/2008	\$ 42.43	\$ (14,631)
Partners	9/19/2007	\$ 50.20	4,644	1/31/2008	\$ 42.43	\$ (36,097)
Partners	9/19/2007	\$ 50.20	2,307	1/31/2008	\$ 42.21	\$ (18,438)
Partners	9/19/2007	\$ 50.20	29,343	2/1/2008	\$ 46.05	\$ (121,724)
Partners	9/21/2007	\$ 52.09	13,150	2/1/2008	\$ 46.05	\$ (79,333)
Partners	9/21/2007	\$ 50.91	5,260	2/1/2008	\$ 46.05	\$ (25,544)
Partners	9/27/2007	\$ 49.00	7,353	2/4/2008	\$ 48.60	\$ (2,956)
Partners	9/27/2007	\$ 46.00	1,475	2/4/2008	\$ 48.60	\$ 3,834
Partners	9/27/2007	\$ 46.00	8,828	2/4/2008	\$ 48.84	\$ 25,089
Partners	9/27/2007	\$ 46.00	10,710	2/5/2008	\$ 45.02	\$ (10,449)
Partners	9/27/2007	\$ 46.00	5,287	2/5/2008	\$ 43.30	\$ (14,290)
Partners	9/27/2007	\$ 49.00	5,797	2/1/2008	\$ 46.05	\$ (17,090)
Partners	9/28/2007	\$ 48.32	1,853	2/5/2008	\$ 43.30	\$ (9,310)
Partners	9/28/2007	\$ 48.32	2,092	2/6/2008	\$ 40.73	\$ (15,887)

Exhibit-9**FIFO Trade Profits****Panel A. Profit on Shares Sold**

Fund	Buy Date	Net Price- Buy	Shares Traded	Sale Date	Net Price- Sale	Trade Profit (Loss)
Partners	10/4/2007	\$ 51.69	3,350	2/6/2008	\$ 40.73	\$ (36,715)
Partners	10/4/2007	\$ 51.69	6,712	2/7/2008	\$ 39.89	\$ (79,184)
Partners	10/4/2007	\$ 51.69	284	3/12/2008	\$ 24.01	\$ (7,860)
Partners	10/4/2007	\$ 51.18	13,641	3/12/2008	\$ 24.01	\$ (370,594)
Partners	10/31/2007	\$ 58.76	5,780	3/12/2008	\$ 24.01	\$ (200,868)
Partners	11/9/2007	\$ 53.22	2,670	3/12/2008	\$ 24.01	\$ (77,979)
Partners	11/9/2007	\$ 53.22	5,105	3/12/2008	\$ 23.69	\$ (150,764)
Partners	11/9/2007	\$ 53.49	5,635	3/12/2008	\$ 23.69	\$ (167,945)
Overseas	7/13/2007	\$ 29.62	6,044	11/30/2007	\$ 65.33	\$ 215,809
Overseas	7/13/2007	\$ 29.62	18,522	12/3/2007	\$ 68.48	\$ 719,690
Overseas	7/13/2007	\$ 29.30	7,289	12/3/2007	\$ 68.48	\$ 285,540
Overseas	7/13/2007	\$ 29.30	14,451	12/4/2007	\$ 66.80	\$ 541,927
Overseas	7/17/2007	\$ 32.00	11,122	12/4/2007	\$ 66.80	\$ 387,124
Overseas	7/17/2007	\$ 32.00	19,365	12/12/2007	\$ 65.21	\$ 643,267
Overseas	7/17/2007	\$ 32.00	19,365	12/13/2007	\$ 65.06	\$ 640,283
Overseas	7/17/2007	\$ 32.00	5,357	12/20/2007	\$ 62.82	\$ 165,149
Overseas	7/17/2007	\$ 32.00	15,446	12/20/2007	\$ 62.87	\$ 476,902
Overseas	7/17/2007	\$ 31.80	33,741	12/20/2007	\$ 62.87	\$ 1,048,226
Overseas	7/17/2007	\$ 31.80	16,424	12/21/2007	\$ 60.09	\$ 464,569
Overseas	7/18/2007	\$ 31.30	5,435	12/21/2007	\$ 60.09	\$ 156,490
Overseas	7/25/2007	\$ 30.68	7,104	12/21/2007	\$ 60.09	\$ 208,927
Overseas	7/25/2007	\$ 30.68	14,481	12/26/2007	\$ 54.06	\$ 338,518
Overseas	7/25/2007	\$ 30.68	155	1/2/2008	\$ 56.49	\$ 4,001
Overseas	7/31/2007	\$ 31.92	669	1/2/2008	\$ 56.49	\$ 16,438
Overseas	7/31/2007	\$ 31.92	12,918	1/2/2008	\$ 54.72	\$ 294,604
Overseas	8/21/2007	\$ 34.05	55	1/2/2008	\$ 54.72	\$ 1,137
Overseas	8/21/2007	\$ 34.99	15,874	1/2/2008	\$ 54.72	\$ 313,189
Overseas	8/21/2007	\$ 34.99	5,082	1/3/2008	\$ 54.84	\$ 100,865
Overseas	8/21/2007	\$ 34.99	13,213	1/4/2008	\$ 51.32	\$ 215,697
Overseas	8/21/2007	\$ 34.99	16,602	1/4/2008	\$ 49.93	\$ 247,913
Overseas	8/21/2007	\$ 34.99	22,696	1/4/2008	\$ 50.25	\$ 346,124
Overseas	9/11/2007	\$ 42.49	1,504	1/4/2008	\$ 50.25	\$ 11,658
Overseas	9/11/2007	\$ 42.49	21,781	1/4/2008	\$ 49.11	\$ 144,167
Overseas	9/11/2007	\$ 42.49	12,100	1/7/2008	\$ 44.45	\$ 23,664
Overseas	9/11/2007	\$ 42.49	2,269	1/7/2008	\$ 43.88	\$ 3,149
Overseas	9/18/2007	\$ 48.41	13,625	1/7/2008	\$ 43.88	\$ (61,705)
Overseas	9/18/2007	\$ 48.43	21,825	1/7/2008	\$ 43.88	\$ (99,369)
Overseas	9/18/2007	\$ 48.43	16,053	1/8/2008	\$ 46.65	\$ (28,645)
Overseas	9/18/2007	\$ 48.38	2,053	1/8/2008	\$ 46.65	\$ (3,560)
Overseas	9/18/2007	\$ 48.38	9,680	1/31/2008	\$ 42.43	\$ (57,644)
Overseas	9/18/2007	\$ 48.38	3,146	1/31/2008	\$ 42.21	\$ (19,425)

Exhibit-9**FIFO Trade Profits****Panel A. Profit on Shares Sold**

Fund	Buy Date	Net Price- Buy	Shares Traded	Sale Date	Net Price- Sale	Trade Profit (Loss)
Overseas	9/18/2007	\$ 48.38	55,426	2/1/2008	\$ 46.05	\$ (129,165)
Overseas	9/19/2007	\$ 50.20	16,874	2/1/2008	\$ 46.05	\$ (69,999)
Overseas	9/19/2007	\$ 50.20	12,147	2/4/2008	\$ 48.84	\$ (16,518)
Overseas	9/19/2007	\$ 50.20	12,147	2/4/2008	\$ 48.60	\$ (19,464)
Overseas	9/19/2007	\$ 50.20	9,640	2/5/2008	\$ 43.30	\$ (66,561)
Overseas	9/19/2007	\$ 50.20	14,460	2/5/2008	\$ 45.02	\$ (74,865)
Overseas	9/19/2007	\$ 50.20	7,143	2/6/2008	\$ 40.73	\$ (67,677)
Overseas	9/19/2007	\$ 50.20	2,799	2/7/2008	\$ 39.89	\$ (28,864)
Overseas	9/21/2007	\$ 52.09	6,010	2/7/2008	\$ 39.89	\$ (73,303)
Overseas	9/21/2007	\$ 52.09	14,430	3/12/2008	\$ 23.69	\$ (409,829)
Overseas	9/21/2007	\$ 52.09	6,810	3/12/2008	\$ 24.01	\$ (191,184)
Overseas	9/21/2007	\$ 50.91	10,900	3/12/2008	\$ 24.01	\$ (293,182)
Overseas	9/27/2007	\$ 49.00	12,353	3/12/2008	\$ 24.01	\$ (308,691)
Institutional	7/13/2007	\$ 29.30	798	12/12/2007	\$ 65.21	\$ 28,658
Institutional	7/13/2007	\$ 29.30	6,792	12/13/2007	\$ 65.06	\$ 242,867
Institutional	7/13/2007	\$ 29.30	110	12/20/2007	\$ 62.87	\$ 3,693
Institutional	7/13/2007	\$ 29.62	8,701	12/20/2007	\$ 62.87	\$ 289,319
Institutional	7/17/2007	\$ 32.00	8,460	12/20/2007	\$ 62.87	\$ 261,206
Institutional	7/17/2007	\$ 32.00	1,881	12/20/2007	\$ 62.82	\$ 57,989
Institutional	7/17/2007	\$ 32.00	10,155	12/21/2007	\$ 60.09	\$ 285,300
Institutional	7/17/2007	\$ 32.00	4,529	12/26/2007	\$ 54.06	\$ 99,916
Institutional	7/17/2007	\$ 31.80	549	12/26/2007	\$ 54.06	\$ 12,217
Institutional	7/17/2007	\$ 31.80	9,595	1/2/2008	\$ 54.72	\$ 219,922
Institutional	7/17/2007	\$ 31.80	273	1/2/2008	\$ 56.49	\$ 6,739
Institutional	7/17/2007	\$ 31.80	1,690	1/3/2008	\$ 54.84	\$ 38,935
Institutional	7/17/2007	\$ 31.80	5,661	1/4/2008	\$ 50.25	\$ 104,396
Institutional	7/18/2007	\$ 31.30	1,925	1/4/2008	\$ 50.25	\$ 36,475
Institutional	7/25/2007	\$ 30.68	465	1/4/2008	\$ 50.25	\$ 9,098
Institutional	7/25/2007	\$ 30.68	4,395	1/4/2008	\$ 51.32	\$ 90,709
Institutional	7/25/2007	\$ 30.68	2,840	1/4/2008	\$ 49.93	\$ 54,662
Institutional	7/31/2007	\$ 31.92	2,682	1/4/2008	\$ 49.93	\$ 48,299
Institutional	7/31/2007	\$ 31.92	2,131	1/4/2008	\$ 49.11	\$ 36,640
Institutional	8/21/2007	\$ 34.05	19	1/4/2008	\$ 49.11	\$ 286
Institutional	8/21/2007	\$ 34.99	5,095	1/4/2008	\$ 49.11	\$ 71,931
Institutional	8/21/2007	\$ 34.99	4,025	1/7/2008	\$ 44.45	\$ 38,055
Institutional	8/21/2007	\$ 34.99	12,546	1/7/2008	\$ 43.88	\$ 111,492
Institutional	8/21/2007	\$ 34.99	4,241	1/8/2008	\$ 46.65	\$ 49,430
Institutional	9/11/2007	\$ 42.49	1,786	1/8/2008	\$ 46.65	\$ 7,423
Institutional	9/11/2007	\$ 42.49	3,219	1/31/2008	\$ 42.43	\$ (208)
Institutional	9/11/2007	\$ 42.49	1,047	1/31/2008	\$ 42.21	\$ (297)
Institutional	9/11/2007	\$ 42.49	7,213	2/1/2008	\$ 46.05	\$ 25,678

Exhibit-9**FIFO Trade Profits****Panel A. Profit on Shares Sold**

Fund	Buy Date	Net Price- Buy	Shares Traded	Sale Date	Net Price- Sale	Trade Profit (Loss)
Institutional	9/18/2007	\$ 48.41	4,800	2/1/2008	\$ 46.05	\$ (11,311)
Institutional	9/18/2007	\$ 48.38	12,137	2/1/2008	\$ 46.05	\$ (28,284)
Institutional	9/18/2007	\$ 48.38	4,025	2/4/2008	\$ 48.84	\$ 1,844
Institutional	9/18/2007	\$ 48.38	4,025	2/4/2008	\$ 48.60	\$ 868
Institutional	9/18/2007	\$ 48.38	3,220	2/5/2008	\$ 43.30	\$ (16,379)
Institutional	9/18/2007	\$ 48.38	1,361	2/5/2008	\$ 45.02	\$ (4,572)
Institutional	9/18/2007	\$ 48.43	3,469	2/5/2008	\$ 45.02	\$ (11,829)
Institutional	9/18/2007	\$ 48.43	2,415	2/6/2008	\$ 40.73	\$ (18,613)
Institutional	9/18/2007	\$ 48.43	2,979	2/7/2008	\$ 39.89	\$ (25,454)
Institutional	9/18/2007	\$ 48.43	4,481	3/12/2008	\$ 24.01	\$ (109,434)
Institutional	9/19/2007	\$ 50.20	5,581	3/12/2008	\$ 24.01	\$ (146,163)
Institutional	9/19/2007	\$ 50.20	4,830	3/12/2008	\$ 23.69	\$ (128,075)

Exhibit-9
FIFO Trade Profits

Panel B. Imputed Profit on Shares Not Sold

Fund	Buy Date	Net Price- Buy	Shares Traded	Market Price after Disclosure	Imputed Trade Profit
Institutional	9/19/2007	\$ 50.20	16,085	\$ 65.43	\$ 244,946
Institutional	9/21/2007	\$ 50.91	3,840	\$ 65.43	\$ 55,758
Institutional	9/21/2007	\$ 52.09	9,600	\$ 65.43	\$ 128,099
Institutional	9/27/2007	\$ 46.00	19,200	\$ 65.43	\$ 373,056
Institutional	9/27/2007	\$ 49.00	9,600	\$ 65.43	\$ 157,714
Institutional	9/28/2007	\$ 48.32	2,880	\$ 65.43	\$ 49,273
Institutional	10/4/2007	\$ 51.69	6,766	\$ 65.43	\$ 92,986
Institutional	10/4/2007	\$ 51.18	8,921	\$ 65.43	\$ 127,124
Institutional	10/31/2007	\$ 58.76	3,780	\$ 65.43	\$ 25,196
Institutional	11/9/2007	\$ 53.49	4,500	\$ 65.43	\$ 53,734
Institutional	11/9/2007	\$ 53.22	4,500	\$ 65.43	\$ 54,954
Institutional	11/20/2007	\$ 53.71	12,600	\$ 65.43	\$ 147,629
Institutional	11/27/2007	\$ 55.16	20,052	\$ 65.43	\$ 205,894
Overseas	9/27/2007	\$ 49.00	14,897	\$ 65.43	\$ 244,735
Overseas	9/27/2007	\$ 46.00	54,500	\$ 65.43	\$ 1,058,935
Overseas	9/28/2007	\$ 48.32	8,175	\$ 65.43	\$ 139,864
Overseas	10/4/2007	\$ 51.69	18,688	\$ 65.43	\$ 256,831
Overseas	10/4/2007	\$ 51.18	24,638	\$ 65.43	\$ 351,092
Overseas	10/31/2007	\$ 58.76	10,440	\$ 65.43	\$ 69,588
Overseas	11/9/2007	\$ 53.49	12,725	\$ 65.43	\$ 151,947
Overseas	11/9/2007	\$ 53.22	12,725	\$ 65.43	\$ 155,399
Overseas	11/20/2007	\$ 53.71	35,630	\$ 65.43	\$ 417,462
Overseas	11/27/2007	\$ 55.16	56,703	\$ 65.43	\$ 582,226
Partners	11/9/2007	\$ 53.49	2,140	\$ 65.43	\$ 25,553
Partners	11/20/2007	\$ 53.71	21,770	\$ 65.43	\$ 255,070
Partners	11/27/2007	\$ 55.16	34,645	\$ 65.43	\$ 355,735

Exhibit-9
FIFO Trade Profits

Panel C. Imputed Profit on Open Short Sale Positions

Fund	Short Sale Date	Net Price- Short Sale	Shares Traded	Market Price after Disclosure	Imputed Trade Profit
Overseas	2/25/2008	\$ 34.15	7,230	\$ 21.10	\$ 94,350
Overseas	2/25/2008	\$ 32.99	77,120	\$ 21.10	\$ 917,330
Overseas	2/25/2008	\$ 34.20	21,690	\$ 21.10	\$ 284,064
Overseas	2/25/2008	\$ 34.25	12,050	\$ 21.10	\$ 158,448
Overseas	2/25/2008	\$ 34.34	14,460	\$ 21.10	\$ 191,399
Overseas	2/26/2008	\$ 32.03	100,979	\$ 21.10	\$ 1,103,968
Overseas	2/26/2008	\$ 34.16	19,521	\$ 21.10	\$ 254,886
Overseas	3/4/2008	\$ 26.35	40,885	\$ 21.10	\$ 214,594
Institutional	2/25/2008	\$ 32.99	25,760	\$ 21.10	\$ 306,411
Institutional	2/25/2008	\$ 34.25	4,025	\$ 21.10	\$ 52,926
Institutional	2/25/2008	\$ 34.15	2,415	\$ 21.10	\$ 31,515
Institutional	2/25/2008	\$ 34.20	7,245	\$ 21.10	\$ 94,884
Institutional	2/25/2008	\$ 34.34	4,830	\$ 21.10	\$ 63,932
Institutional	2/26/2008	\$ 32.03	33,730	\$ 21.10	\$ 368,758
Institutional	2/26/2008	\$ 34.16	6,520	\$ 21.10	\$ 85,132
Institutional	3/4/2008	\$ 26.35	13,685	\$ 21.10	\$ 71,829
Partners	2/25/2008	\$ 34.34	10,710	\$ 21.10	\$ 141,762
Partners	2/25/2008	\$ 34.20	16,065	\$ 21.10	\$ 210,396
Partners	2/25/2008	\$ 32.99	57,120	\$ 21.10	\$ 679,433
Partners	2/25/2008	\$ 34.25	8,925	\$ 21.10	\$ 117,357
Partners	2/25/2008	\$ 34.15	5,355	\$ 21.10	\$ 69,882
Partners	2/26/2008	\$ 34.16	14,459	\$ 21.10	\$ 188,792
Partners	2/26/2008	\$ 32.03	74,791	\$ 21.10	\$ 817,664
Partners	3/4/2008	\$ 26.35	30,430	\$ 21.10	\$ 159,718

Exhibit-10**Losses Avoided on Sales During Buyer Class Period**

Fund	Sale Date	Sell Quantity	Net Price- Sale	Market		Loss Avoided \$Amount
				Price after Disclosure		
Overseas	12/20/2007	5,357	\$ 62.82	\$ 21.10	\$	223,514.59
Overseas	12/20/2007	49,187	\$ 62.87	\$ 21.10	\$	2,054,572.36
Partners	12/20/2007	34,542	\$ 62.87	\$ 21.10	\$	1,442,841.38
Partners	12/20/2007	3,762	\$ 62.82	\$ 21.10	\$	156,965.08
Institutional	12/20/2007	17,271	\$ 62.87	\$ 21.10	\$	721,420.68
Institutional	12/20/2007	1,881	\$ 62.82	\$ 21.10	\$	78,482.53
Overseas	12/21/2007	28,963	\$ 60.09	\$ 21.10	\$	1,129,260.98
Partners	12/21/2007	20,882	\$ 60.09	\$ 21.10	\$	814,184.58
Institutional	12/21/2007	10,155	\$ 60.09	\$ 21.10	\$	395,941.21
Overseas	12/26/2007	14,481	\$ 54.06	\$ 21.10	\$	477,245.57
Partners	12/26/2007	10,441	\$ 54.06	\$ 21.10	\$	344,100.61
Institutional	12/26/2007	5,078	\$ 54.06	\$ 21.10	\$	167,353.98
Overseas	1/2/2008	824	\$ 56.49	\$ 21.10	\$	29,161.13
Overseas	1/2/2008	28,847	\$ 54.72	\$ 21.10	\$	969,959.09
Partners	1/2/2008	603	\$ 56.49	\$ 21.10	\$	21,340.00
Partners	1/2/2008	21,158	\$ 54.72	\$ 21.10	\$	711,422.15
Institutional	1/2/2008	9,595	\$ 54.72	\$ 21.10	\$	322,624.79
Institutional	1/2/2008	273	\$ 56.49	\$ 21.10	\$	9,661.39
Overseas	1/3/2008	5,082	\$ 54.84	\$ 21.10	\$	171,477.66
Partners	1/3/2008	3,728	\$ 54.84	\$ 21.10	\$	125,790.77
Institutional	1/3/2008	1,690	\$ 54.84	\$ 21.10	\$	57,024.25
Overseas	1/4/2008	13,213	\$ 51.32	\$ 21.10	\$	399,286.47
Overseas	1/4/2008	16,602	\$ 49.93	\$ 21.10	\$	478,591.42
Overseas	1/4/2008	24,200	\$ 50.25	\$ 21.10	\$	705,309.74
Overseas	1/4/2008	21,781	\$ 49.11	\$ 21.10	\$	610,141.30
Partners	1/4/2008	15,974	\$ 49.11	\$ 21.10	\$	447,472.43
Partners	1/4/2008	17,749	\$ 50.25	\$ 21.10	\$	517,295.14
Partners	1/4/2008	9,692	\$ 51.32	\$ 21.10	\$	292,884.62
Partners	1/4/2008	12,179	\$ 49.93	\$ 21.10	\$	351,088.11
Institutional	1/4/2008	8,051	\$ 50.25	\$ 21.10	\$	234,646.64
Institutional	1/4/2008	4,395	\$ 51.32	\$ 21.10	\$	132,813.44
Institutional	1/4/2008	5,522	\$ 49.93	\$ 21.10	\$	159,184.54
Institutional	1/4/2008	7,245	\$ 49.11	\$ 21.10	\$	202,950.91
Overseas	1/7/2008	12,100	\$ 44.45	\$ 21.10	\$	282,526.76
Overseas	1/7/2008	37,719	\$ 43.88	\$ 21.10	\$	859,285.14
Partners	1/7/2008	27,666	\$ 43.88	\$ 21.10	\$	630,265.45
Partners	1/7/2008	8,875	\$ 44.45	\$ 21.10	\$	207,225.21
Institutional	1/7/2008	4,025	\$ 44.45	\$ 21.10	\$	93,981.01
Institutional	1/7/2008	12,546	\$ 43.88	\$ 21.10	\$	285,813.28
Overseas	1/8/2008	18,106	\$ 46.65	\$ 21.10	\$	462,604.41
Partners	1/8/2008	13,282	\$ 46.65	\$ 21.10	\$	339,352.25

Exhibit-10**Losses Avoided on Sales During Buyer Class Period**

Fund	Sale Date	Sell Quantity	Net Price- Sale	Market		Loss Avoided \$Amount
				Price after Disclosure		
Institutional	1/8/2008	6,027	\$ 46.65	\$ 21.10	\$	153,988.55
Overseas	1/31/2008	9,680	\$ 42.43	\$ 21.10	\$	206,464.07
Overseas	1/31/2008	3,146	\$ 42.21	\$ 21.10	\$	66,410.59
Partners	1/31/2008	7,101	\$ 42.43	\$ 21.10	\$	151,456.74
Partners	1/31/2008	2,307	\$ 42.21	\$ 21.10	\$	48,699.69
Institutional	1/31/2008	3,219	\$ 42.43	\$ 21.10	\$	68,657.82
Institutional	1/31/2008	1,047	\$ 42.21	\$ 21.10	\$	22,101.68
Overseas	2/1/2008	72,300	\$ 46.05	\$ 21.10	\$	1,804,137.56
Partners	2/1/2008	53,550	\$ 46.05	\$ 21.10	\$	1,336,259.56
Institutional	2/1/2008	24,150	\$ 46.05	\$ 21.10	\$	602,626.86
Overseas	2/4/2008	12,147	\$ 48.84	\$ 21.10	\$	336,981.61
Overseas	2/4/2008	12,147	\$ 48.60	\$ 21.10	\$	334,036.00
Partners	2/4/2008	8,828	\$ 48.60	\$ 21.10	\$	242,765.27
Partners	2/4/2008	8,828	\$ 48.84	\$ 21.10	\$	244,906.04
Institutional	2/4/2008	4,025	\$ 48.84	\$ 21.10	\$	111,661.39
Institutional	2/4/2008	4,025	\$ 48.60	\$ 21.10	\$	110,685.34
Overseas	2/5/2008	9,640	\$ 43.30	\$ 21.10	\$	213,980.26
Overseas	2/5/2008	14,460	\$ 45.02	\$ 21.10	\$	345,946.88
Partners	2/5/2008	10,710	\$ 45.02	\$ 21.10	\$	256,230.37
Partners	2/5/2008	7,140	\$ 43.30	\$ 21.10	\$	158,487.45
Institutional	2/5/2008	3,220	\$ 43.30	\$ 21.10	\$	71,474.73
Institutional	2/5/2008	4,830	\$ 45.02	\$ 21.10	\$	115,554.87
Overseas	2/6/2008	7,143	\$ 40.73	\$ 21.10	\$	140,196.74
Partners	2/6/2008	5,442	\$ 40.73	\$ 21.10	\$	106,810.95
Institutional	2/6/2008	2,415	\$ 40.73	\$ 21.10	\$	47,399.56
Overseas	2/7/2008	8,809	\$ 39.89	\$ 21.10	\$	165,517.24
Partners	2/7/2008	6,712	\$ 39.89	\$ 21.10	\$	126,115.53
Institutional	2/7/2008	2,979	\$ 39.89	\$ 21.10	\$	55,974.10
Overseas	3/12/2008	14,430	\$ 23.69	\$ 21.10	\$	37,305.00
Overseas	3/12/2008	30,063	\$ 24.01	\$ 21.10	\$	87,553.54
Partners	3/12/2008	22,375	\$ 24.01	\$ 21.10	\$	65,163.50
Partners	3/12/2008	10,740	\$ 23.69	\$ 21.10	\$	27,765.47
Institutional	3/12/2008	10,062	\$ 24.01	\$ 21.10	\$	29,303.92
Institutional	3/12/2008	4,830	\$ 23.69	\$ 21.10	\$	12,486.71